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THE INDICATIONS FOR AND TECHNIC OF VAGINAL CESAREAN SECTION IN ECLAMPSIA *

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It was my original intention to prepare for this session a paper on the different methods of rapid evacuation of the uterus in the various toxemias of pregnancy. The invitation to participate in this symposium on eclampsia has modified my plan and I shall confine my remarks to the indications and technic of vaginal Cesarean section in eclampsia.

INDICATIONS

Vaginal Cesarean section or vaginal hysterotomy, the incision of the pregnant uterus through the vagina, is indicated in eclampsia when, in the presence of a rigid cervix, the uterus has to be rapidly emptied. It would seem as if these indications were simple enough. When the cervix is easily dilated or when there is no need for haste, other methods of emptying the uterus may be employed. When a multipara is threatened with eclampsia and the condition of the patient does not demand haste, slower methods of emptying the uterus, such as the balloon, gauze packing or manual dilatation, may be employed. But when the cervix is rigid and haste is necessary, vaginal Cesarean section is much quicker and is the method of choice.

My position in regard to vaginal Cesarean section has been *misunderstood, judging from* the protests which have been raised against my contention that under certain conditions the operation should be performed by the general practitioner. But careful consideration will show, I believe, that my position is correct. My claim is that in the past the practitioner has been taught to perform and expected to do any obstetric procedure which stopped short of using the knife. He was taught, for example, the indications and contraindications of high forceps, an operation calling for far more judgment and skill than vaginal Cesarean section. He was taught and has practiced for years the difficult and slow manual dilatation of the parturient os, with all its attendant dangers of laceration of the cervix, as well as sepsis from the carrying upward of septic material from below. Yet *the minute the practitioner* is advised in the presence of a rigid cervix which will not yield to manual dilatation, when haste is imperative, to perform a clean surgical operation requiring the use of the knife, the wise ones shake their heads and speculate as to the harm *that* will result from such operations in unskilled hands. What operative procedure, may I ask, has not resulted in harm in certain hands, and, I may add, sometimes in supposedly skilled hands? It is not my purpose to advocate *indiscriminate operating by anybody and everybody. Undoubtedly it would be better if surgery of every* description could be limited to a select few in each community. Then the inexperienced operator would be heard of no more. The man who aspired to be one of those to perform surgery in a certain district would prepare himself by years of hospital work, serving a long apprenticeship under some older surgeon. Then this specialist would be ready to respond to the call of every practitioner and perform all his operations for him obstetric as well as others. No doubt this would be an ideal condition of affairs, especially for the surgeon. But *it needs no great argument to convince us that* in this country, at least, such an ideal situation will not materialize in our lifetime. Even in the cities, where now it would be possible for such a condition of affairs to exist, the practitioner still persists in performing his obstetric surgery. In fact, it is about the only surgery in this age of specialism that has been left to him, or that he contends should remain his.

I am not referring to the city practitioner with the special obstetric surgeon within easy call. I am making a plea for the country practitioner, who must do the best he can, with the aid perhaps of a fellow practitioner no more skilled than himself. My contention is that less harm will be done when it becomes necessary to empty the uterus in eclampsia in the presence of a rigid cervix, by a clean-cut surgical procedure like vaginal Cesarean section, than by manual dilatation, the operation usually selected under these conditions.

My friend, Dr. Philander Harris, the originator of the *only true scientific method of manual dilatation*, a man of great gynecologic and obstetric experience, is able to accomplish dilatation in three-quarters of an hour even in difficult cases. Yet even he can not be entirely satisfied with the method, for recently he has brought forward a modification of Bossi's instrument, in which a powerful mechanical force takes the place of the fingers.

It is not a question of an hour's time in these difficult cases in which the cervix is rigid. The practitioner employs one hand until it is numb and useless. Then the other is substituted, each hand being inserted into the vagina and up to the cervix many times before dilatation is accomplished. Such manipulation means sepsis or a great chance of septic infection in every such operation. It is not uncommon for a physician to relate the history of a difficult case of eclampsia in which it required three or more hours before the cervix could be dilated, the patient being under the anesthetic all this time. For

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

I cannot see why obstetric surgery should not well done and according to as sound principles as kinds of surgery. If practitioners are not familiar h the technic of this operation it is not an impossible task for them to acquire it.

THE TECHNIC

One assistant, besides the anesthetizer, is all that is absolutely necessary, although it is more convenient for the operator to have an assistant at each leg of the patient. If only one assistant can be secured the patient's legs can be held in the lithotomy position by an ordinary obstetric leg-holder, or a sheet passed under the popliteal spaces and over one shoulder and under the other.

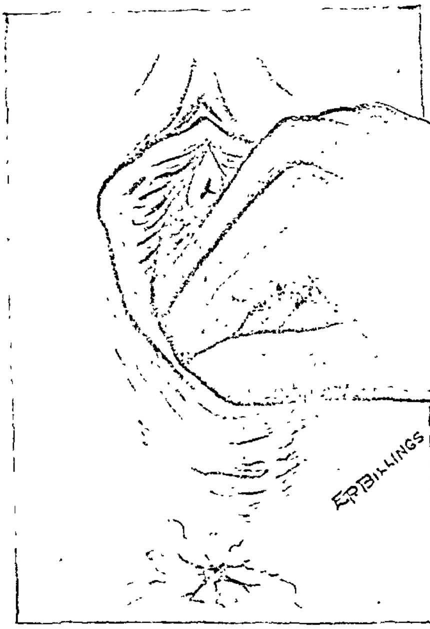

Fig. 1.—Vaginal orifice and vagina dilated with the gloved hand, held in the shape of a cone

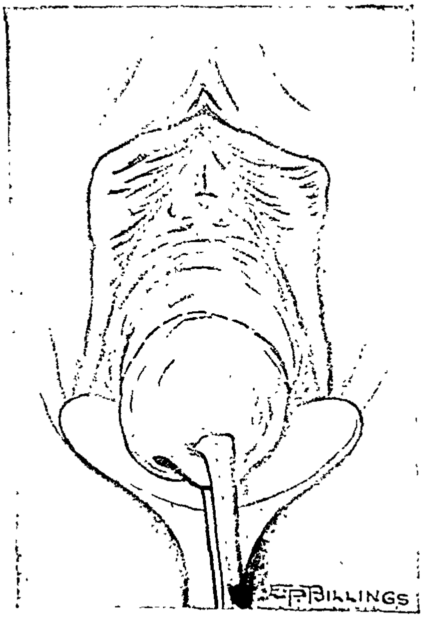

Fig. 2.—Cervix drawn forcibly downward by volsella forceps. Transverse incision through mucosa at vaginal juncture.

The vulva and vagina should be prepared as for any other obstetric operation, and the bladder carefully emptied. With the gloved hand, held in the shape of a cone, the vaginal orifice and the vaginal canal should now be completely dilated, in the same manner but more thoroughly than is customary when the hand is introduced for the operation of manual dilatation (Fig. 1) It may be necessary with very small vaginas to emplo the lateral incisions advocated by Schuchardt, but the are unnecessary in the large majority of cases, ampl dilatation being secured through the use of the hand

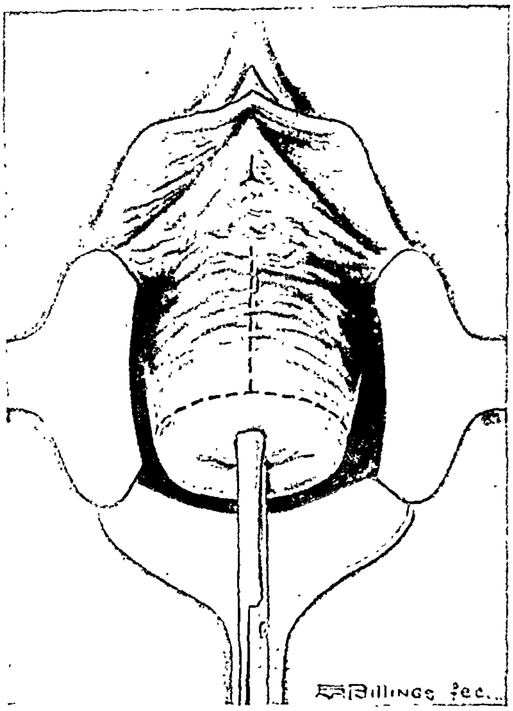

Fig. 3.—Additional longitudinal incision at times necessary to secure more room.

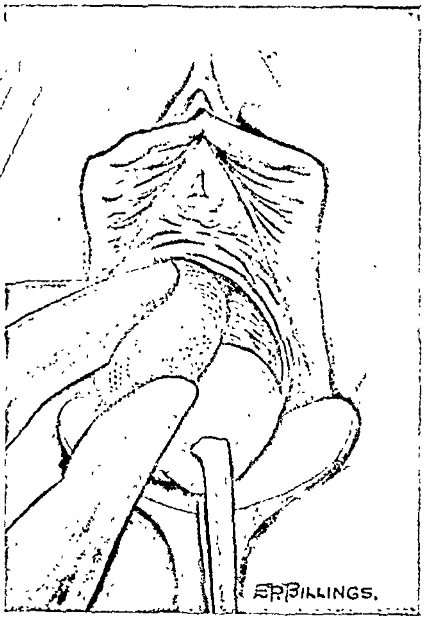

Fig. 4.—Vaginal and bladder walls dissected away from uterus by downward and upward strokes with sponge.

dilator as described above. However, it is essential that ample dilatation be secured, else the on-coming or after-coming head may either be arrested at the outlet or, if force be employed, tears of the perineum may result.

The perineum being depressed, the anterior lip of the cervix is seized and drawn downward to the vulva. Usually this is easily accomplished, so that the anterior vaginal wall, the field of operation, is within easy reach. When, for any reason, the cervix cannot be so drawn down, the operation is contraindicated, as it is quite essential that the anterior and posterior incisions be made aided by sight. A transverse incision long enough to take in nearly one-half the circumference of the cervix is now made through the vaginal mucosa at the vaginal juncture (Fig. 2). At times, with a small cervix, it may be necessary to add a longitudinal cut through the vaginal mucosa, thereby making an inverted T-shaped incision (Fig. 3). Usually the first incision is sufficient to allow the pushing upward of the vaginal and bladder walls by a few strokes of the sponge (Fig. 4). Pressure

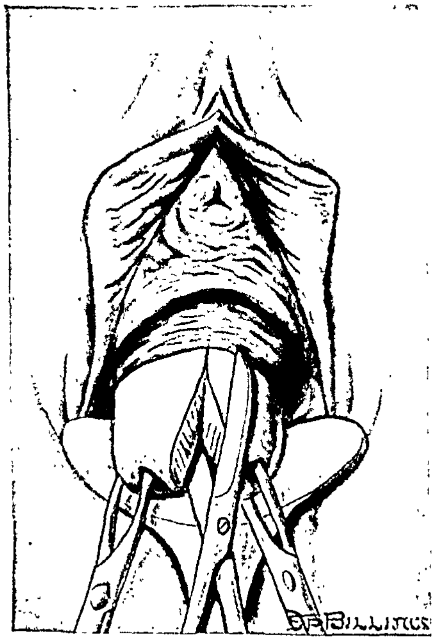

Fig. 5.—Cervix grasped at each side of median line by volsella forceps. Cervix split upward for about 9 cm. in median line by stout scissors, care being taken not to distort cervix.

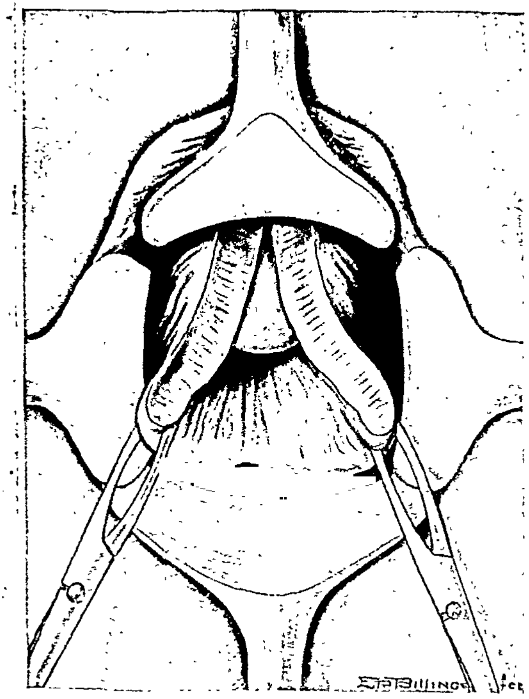

Fig. 6.—Bladder held away by retractor. Uterus split upward in median line. Scissors guided by fingers so as not to puncture bag of membranes.

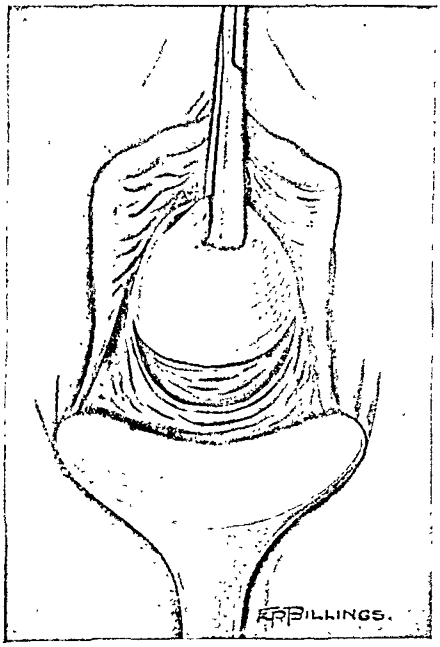

Fig. 7.—Transverse incision through posterior vaginal mucosa preparatory to splitting posterior cervical lip in median line. Through transverse incision rectum and peritoneum are pushed away from uterus by sponge.

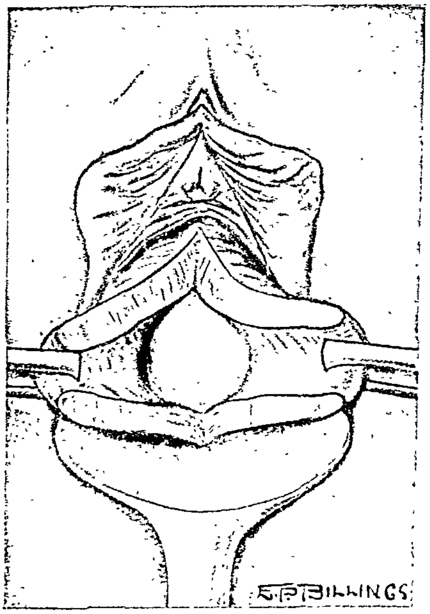

Fig. 8.—Anterior and posterior uterine walls incised. Intact bag of membranes protruding.

must be downward toward the uterus, at the same time upward; otherwise the bladder may be opened. On account of the vascularity of the tissues due to the pregnant state, no difficulty is experienced in separating the bladder, the tissues acting in a manner entirely differently from their behavior in the case of the non-pregnant uterus. If for any reason there be difficulty in pushing up the anterior wall, instead of using force, the tissues next to the cervix should be snipped with the scissors.

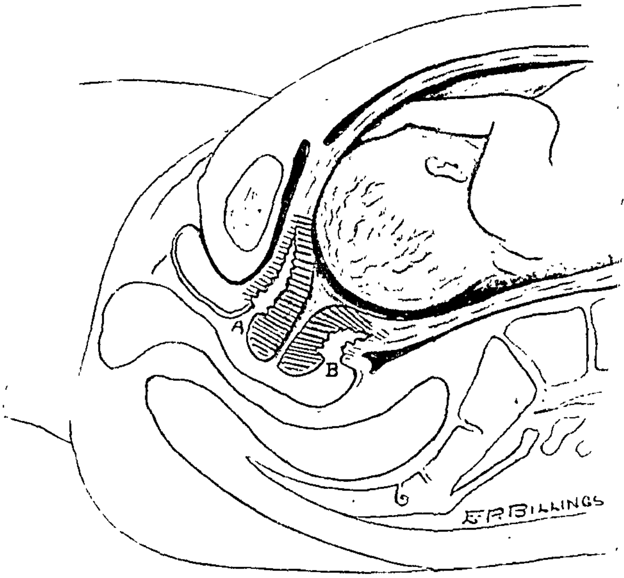

Fig. 9.—Cut showing extent to which anterior and posterior uterine walls can be incised. Peritoneum not opened. Ample space for passage of child.

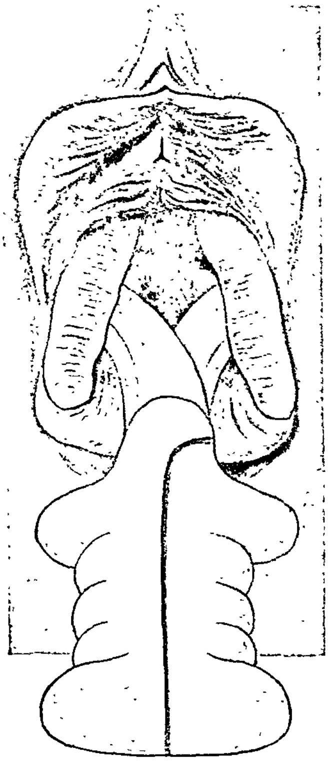

Fig. 10.—Showing forceps introduced through incision. In most cases version preferable to forceps. Volsella forceps should be removed from cervix before application of forceps or version.

A retractor is next inserted between the uterus and bladder and pulled sharply upward, thus holding the bladder out of harm's way. Or the bladder can be forced upward against the pubes and held there by a small sponge. A volsella forceps is then placed at either side of the external os and the cervix and lower uterine segment split upward in the median line by stout scissors for about nine centimeters (Fig. 5). Care should be taken not to distort the cervix so that the incision can be made exactly in the median line, in which case there will be little or no hemorrhage. Also, if the point of the scissors be guided by the fingers, the cervix can be cut with-

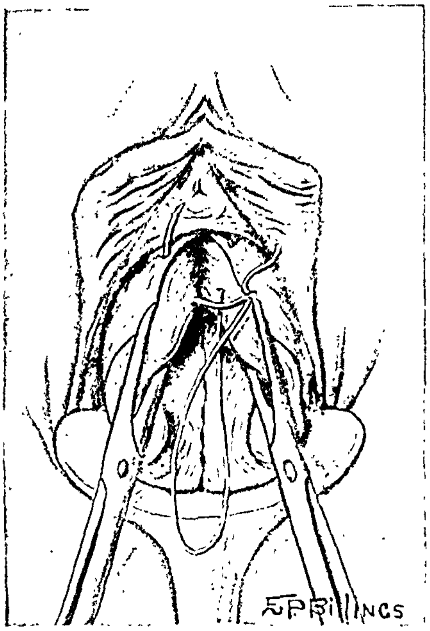

Fig. 11.—Posterior incision closed by continuous chromicized catgut introduced from posterior surface down to but not through cervical mucosa. Anterior incision being sutured and upper portion of incision being drawn down to facilitate introduction of suture.

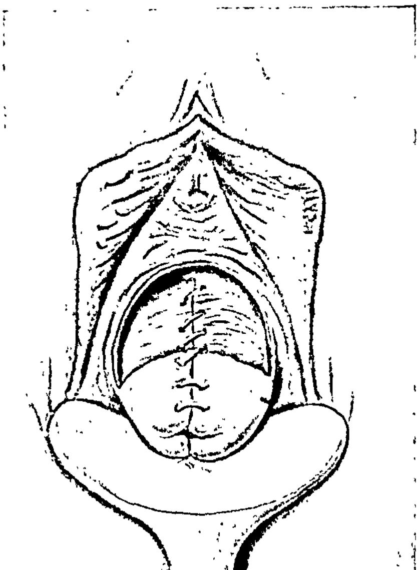

Fig. 12.—Suture of anterior and posterior incisions completed.

out rupturing the membranes, a desirable thing, as usually the operation is completed by version (Fig. 6).

In case the operation is performed from the beginning of the ninth month to term, on account of the relatively large size of the child's head it is best to incise the posterior cervical lip as well. Otherwise, while there may be room enough for the passage of the hand upward where the anterior lip alone has been excised, there may not be room enough for the passage of the after-coming head, and a tear of the uterus may result; or there may be so much delay as to endanger the life of the child. A transverse incision about six or seven centimeters in length is made through the mucosa at the posterior vaginal juncture and the rectum and peritoneum pushed away by a sponge (Fig. 7). The posterior lip is then incised in the median line in the same manner as was the anterior lip and for about the same distance.

The split cervix is now exposed, as shown in Figure 8. If care has been taken the unbroken bag of membranes will be seen protruding through the opening.

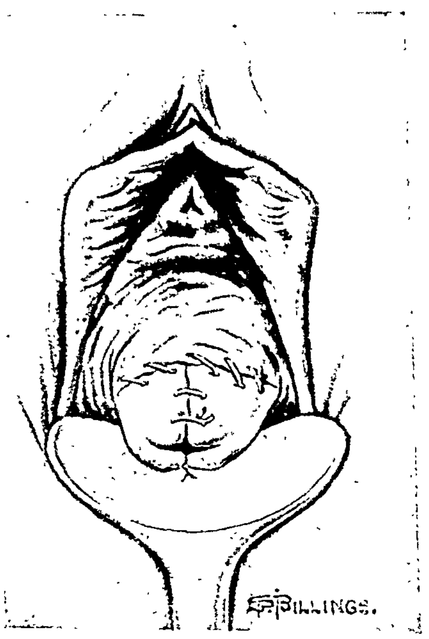

Fig. 13.—Vaginal mucosa united by continuous catgut suture which should not be too tight for fear of oozing under flap. In some cases cigarette gauze drain can be placed temporarily at one angle of wound.

The extent of the anterior and posterior incisions and the space obtained for the passage of the child is illustrated by Figure 9.

The extraction of the child may be by forceps (Fig. 10) or by version. Usually the latter is preferable when haste is desirable. However, the forceps should always be at hand in case there be difficulty in extracting the after-coming head, delivery being easily accomplished by flexing the head over the perineum by means of the forceps. After the incisions have been made, and prior to the extraction of the child, the volsella forceps should be removed from the cervix, else the hand or the forceps, by pressure upward, may cause them to tear through the friable cervical tissues, thereby giving rise to ugly, ribbon-like tears.

The placenta can be removed manually or expressed by the Credé method. Usually there is no more bleeding than follows any operation which rapidly empties the uterus. Tamponade of the uterus is generally unnecessary, although it is indicated if there be postpartum hemorrhage.

The operation up to this point can be easily finished within ten minutes by one who has had experience with vaginal work, although this rapidity cannot be expected from inexperienced hands.

The incisions should be sutured with catgut, plain or chromicized, as one may prefer. To save time, continuous sutures should be employed, the needle going down to but not through the cervical mucosa (Fig. 11). When both anterior and posterior lips have been incised the latter should be sutured first (Fig. 11). Care should be taken to see that the upper point of the anterior incision is sutured; if necessary the uterine walls being pulled downward for this purpose by tenaculum forceps (Fig. 11), thus securing accurate coaptation of the cut cervical tissues (Fig. 12). Care should be taken not to suture too tightly the vaginal flap for fear of oozing and a collection beneath the flap (Fig. 13). In some cases it may be advisable to place a temporary gauze drain at one corner of and under the flap in order to secure drainage.

The after-treatment differs in no respect from an ordinary obstetric operative case. Vaginal douches are not necessary unless suppuration should occur. The cervical wounds usually heal and give very little trouble. A number of normal labors after this operation show that the cicatrices are strong enough to stand subsequent labor without rupture.

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THE TREATMENT OF ECLAMPSIA

INCLUDING A COMPARISON OF THE DANGERS OF CHLOROFORM AND ETHER IN THIS CONDITION

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In all branches of medicine to-day the prophylactic treatment, or preventive medicine, receives foremost consideration. Hence it is that in the treatment of eclampsia the toxemia of pregnancy, which threatens and may, or may not, eventuate in an eclamptic seizure, demands our chief attention. Whatever the exact etiology may prove eventually to be, it is generally agreed that the symptoms and pathologic changes of the toxemia of pregnancy and the puerperium are caused by some toxin or toxins circulating through the system, and that with this there is associated some fault in the elimination of the products of metabolism.

Accepting this as a working basis of etiology, the obstetrician may well be guided in treatment of toxemia threatening eclampsia by these five principles:

1. The products of metabolism requiring elimination should be reduced.
2. Elimination of metabolic products should be favored.
3. High blood-pressure should be reduced.
4. If the toxemia of the patient, as shown by the urine, blood-pressure and general condition, does not markedly improve under the preceding principles of treatment, or if an eclamptic seizure occurs, the uterus should be emptied.

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

5. In all methods of treatment that should be avoided which will either reduce the resistance of the patient, or seriously damage any of her organs.

Let us now consider these principles more in detail.

1. In reducing the products of metabolism requiring elimination the obstetrician is brought face to face with the problem of diet for the toxemic patient. As proteid metabolism is that most often at fault, it is generally agreed that red meats should be avoided in all forms of toxemia of pregnancy and the puerperium. Although in mild degrees of toxemia, chicken and fish may be allowed, in severe forms of the condition an exclusive milk diet with large draughts of water is the diet of choice, to which are added chicken broth, fruits and green vegetables, as the toxemia diminishes. As a prophylactic measure it is our custom, during the last month of a normal pregnancy, to allow the ingestion of red meat only two or three times a week.

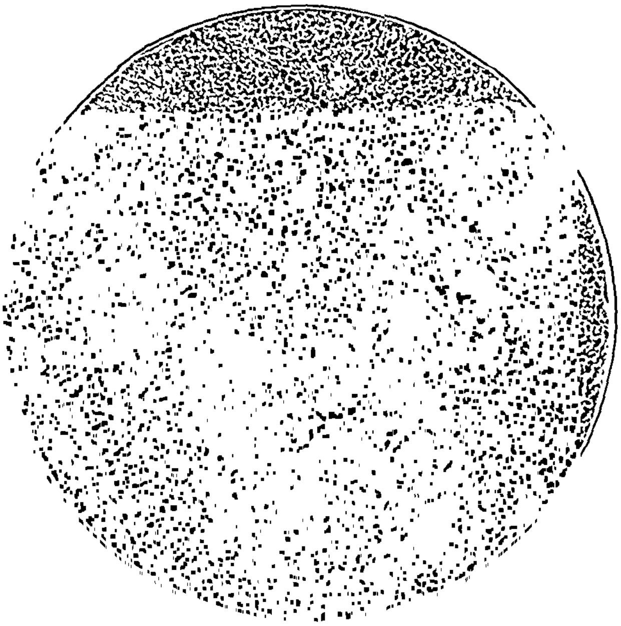
Fig. 1.—Liver of eclamptic patient.

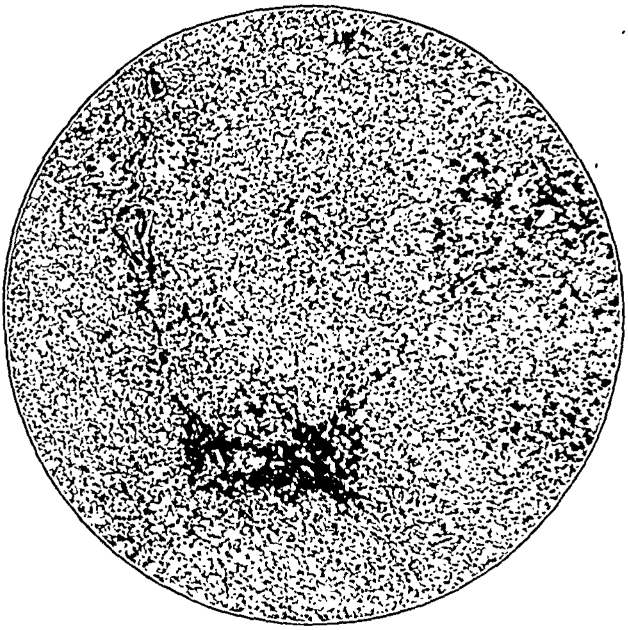
Fig. 3.—Liver of another eclamptic patient.

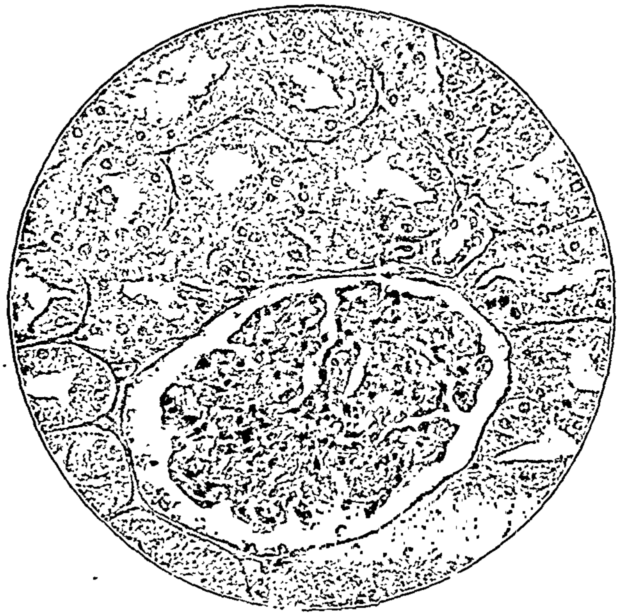
Fig. 2.—Kidney of eclamptic patient whose liver is shown in Figure 1.

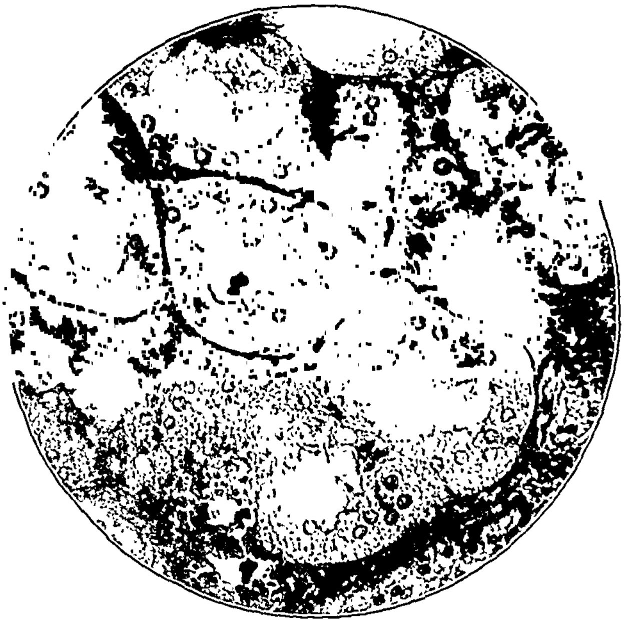
Fig. 4.—Kidney of eclamptic patient whose liver is shown in Figure 3.

2. In favoring the elimination of products of metabolism, the three avenues, the skin, the urinary tract and the intestinal tract, should receive careful attention. Thus elimination through the skin by sweating, induced either by the hot-air bath or the hot wet pack, is a most useful measure in the treatment of toxemia. Elimination through the urinary tract, favored by the ingestion of large amounts of water, and elimination through the intestinal tract, favored by calomel and saline or other laxatives, and especially by colon irrigations with saline solution, are methods which are considered routine procedures in the treatment of this condition.

3. In the reduction of blood-pressure, while venesection is the choice of many obstetricians, and was formerly

quite extensively employed by one of us, its use has now been superseded at the Sloane Maternity by veratrum viride, nitroglycerin and chloral, and with better results.

Our method of using these drugs in toxemia threatening eclampsia is as follows: Chloral (30 grains) is administered per rectum as an initial dose and then repeated in doses of from 20 to 30 grains from every four hours to every six hours, according to the restlessness of the patient. Nitroglycerin gr. 1/50 to gr. 1/100 from every two hours to every four hours is given hypodermatically. If under the use of the larger doses of these drugs the tension still remains high we depend on the use of veratrum viride rather than venesection.

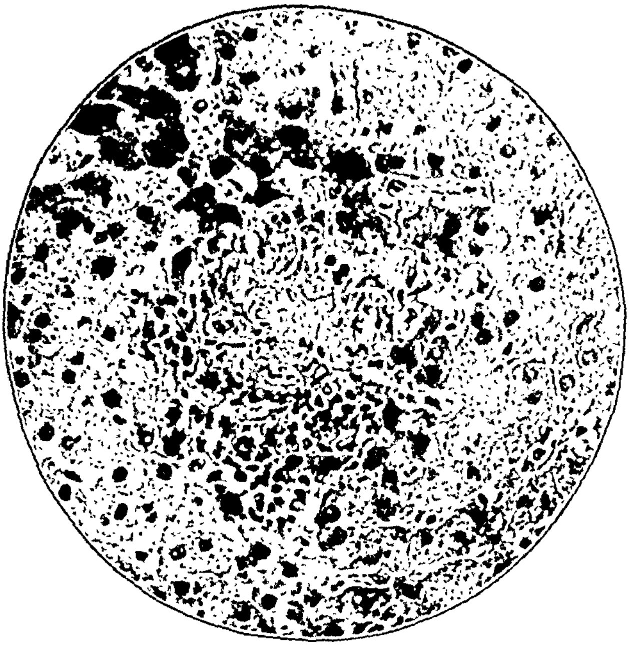

Fig. 5.—Liver of eclampsia, with hemorrhage.

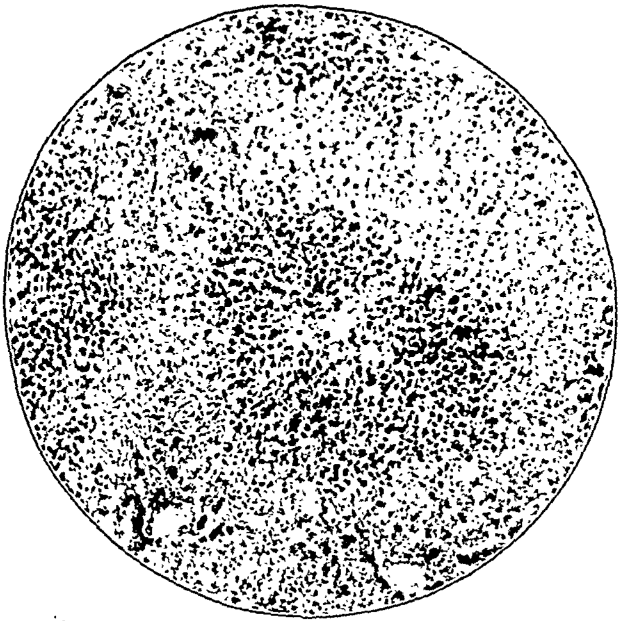

Fig. 6.—Liver. Delayed chloroform poisoning in man.

The preparation used has been Squibb's fluidextract of veratrum and the dose employed has scarcely ever exceeded 5 minims. Our rule is to give 5 minims hypodermatically and watch the effect. As the frequency is usually reduced with the tension, it is our custom to be largely guided in repetition of the dose and in the size of the dose, by the frequency of the pulse, although the reduction in the tension is the object desired.

If at the expiration of from one to two hours the pulse has not been reduced in frequency to 100 or below and the tension correspondingly reduced, a second hypodermatic injection of veratrum 1 to 3 minims is given. The tension of the pulse is then controlled, if not kept low by the continued use of the nitroglycerin, by repeated doses of veratrum 1 to 3 minims every four hours.

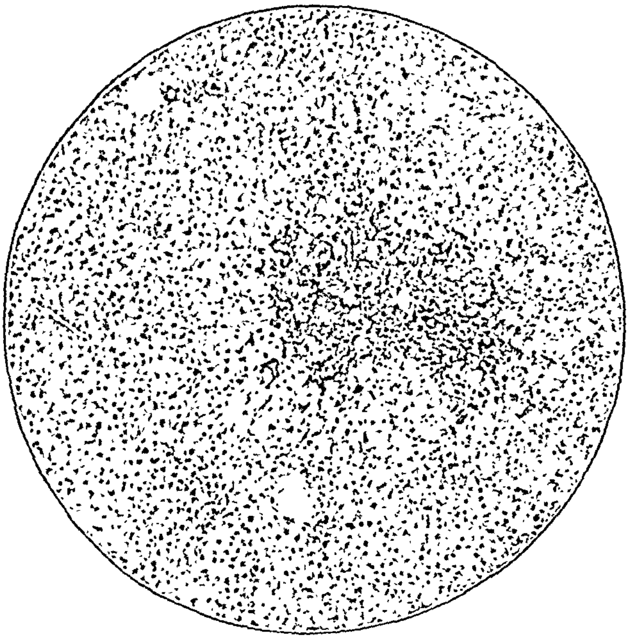

Fig. 7.—Liver of dog. One hour chloroform anesthesia.

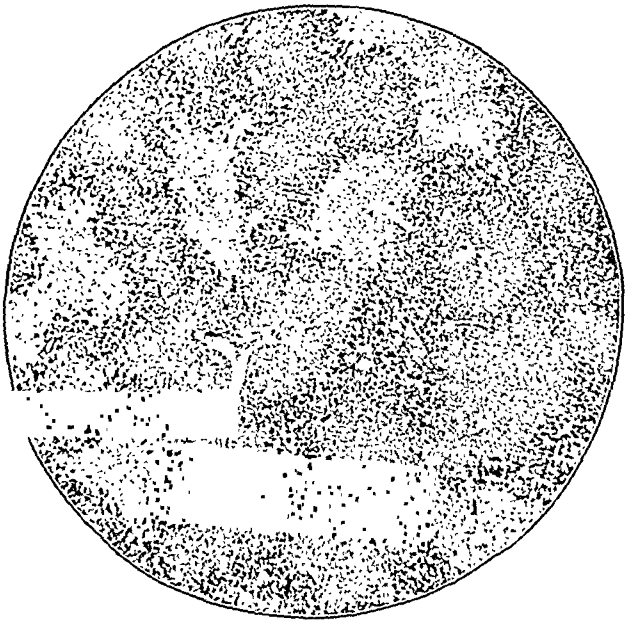

Fig. 8.—Liver of dog. Delayed poisoning after eight and one-half hours' chloroform anesthesia.

4. To repeat the fourth principle stated earlier in the paper, if the toxemia of the patient, as shown by the urine, blood-pressure and general condition, does not

markedly improve under the preceding principles of treatment, or if an eclamptic seizure occurs, the uterus should be emptied. At the Sloane Maternity Hospital some years ago a series of patients was treated on the palliative plan, favoring elimination without emptying the uterus, but the mortality was so much greater than when the fetus and its toxins were eliminated from the uterus and the system, that for the past ten years the rule has been, given an eclamptic seizure, or a toxemia so severe as to strongly threaten eclampsia in spite of treatment, to proceed to empty the uterus.

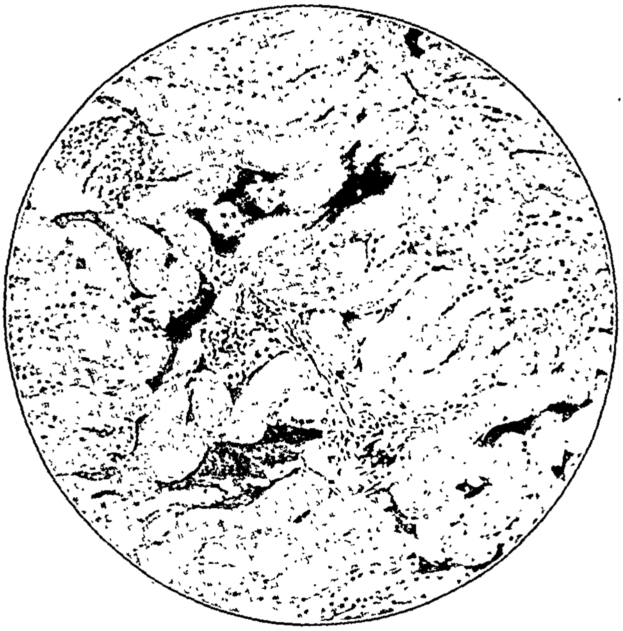
Fig. 9.—Kidney of dog. Delayed poisoning, after seven and one-half hours chloroform anesthesia.

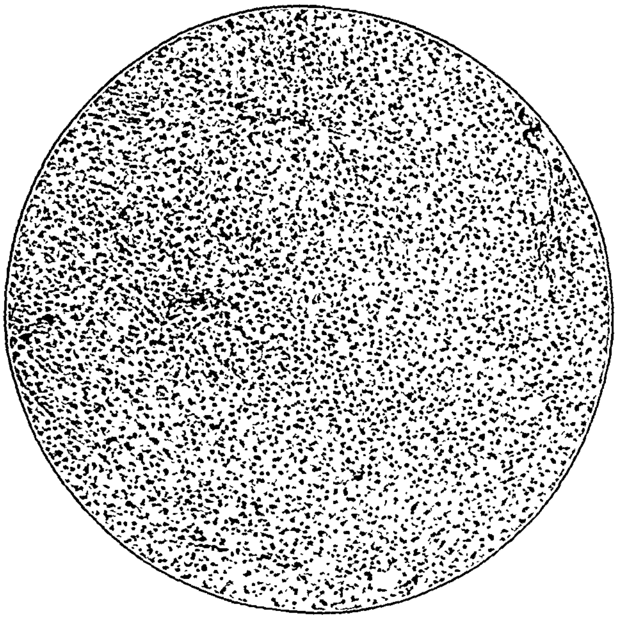
Fig. 10.—Liver of dog. Four and one-half hours ether anesthesia.

In carrying out this rule the fifth principle of treatment deserves marked emphasis and will be restated here. *In all methods of treatment, that should be avoided which will either reduce the resistance of the patient or seriously damage any of her organs.*

This principle has an important bearing on the method of emptying the uterus. Having decided that the fetus should be removed from the uterus, the next questions are, How? and When? If the cervix is soft and dilatable and the patient has had one or more convulsions, our own preference is manual dilatation and delivery usually by version.

If on the other hand the cervix is long and rigid we believe that the patient is better off, even if delivered several hours later, to have her cervix softened and dilated by the preliminary use of the elastic bag, or bags, rather than to be delivered by an immediate *accouchement forcé,* which leaves her in marked shock and with cervix deeply lacerated, perhaps to the vaginal junction. Our observation leads us to believe that pronounced shock and deep lacerations lessen both the resistance of the patient and her chances of recovery. In the cases of long rigid cervix, which do not readily dilate under the use of the elastic bag, the so-called vaginal Cesarean section has a distinct and valuable field of usefulness. In a restricted class of these cases future experience may prove the abdominal Cesarean section to be the operation of choice.

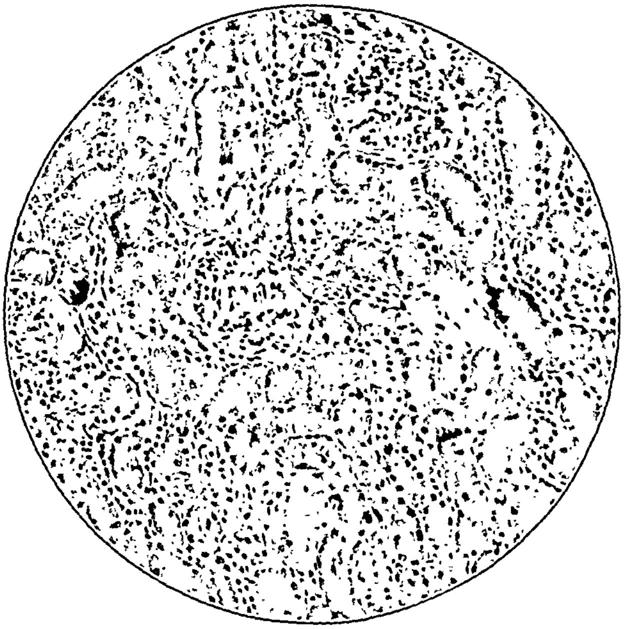
Fig. 11.—Kidney of dog. Five hours ether anesthesia.

SELECTION OF AN ANESTHETIC

In the treatment of eclampsia one of the most important questions is, What anesthetic shall be used and how shall it be employed? For many years at the Sloane Maternity Hospital, New York, it was our custom to administer chloroform to every patient suffering from eclampsia and to administer it to the patient each time she had a convulsion. This meant that often a physician or a nurse was detailed to sit beside a patient during a whole day, or a whole night, with a chloroform bottle and mask in hand and with instructions to administer chloroform at the first indication of a convulsion. This was done with the idea that the convulsions were in themselves an element of grave danger to the patient and should be controlled if possible. As we look back on the treatment now we appreciate that many patients were kept more or less under the influence of chloroform for many hours at a time.

Further, if the uterus had to be emptied for the toxemia of pregnancy, shown in the early months by pernicious vomiting, or in the later months by eclampsia, chloroform was the anesthetic usually employed.

In the light of our present knowledge concerning the effect of chloroform, the question arises: Does its use in puerperal toxemia and eclampsia conform to our fifth principle of treatment recommended above, viz.: "Harmful remedies should be avoided"? We believe that the question should be answered in the negative; and we propose to show that chloroform is dangerous in puerperal toxemia and eclampsia; that ether is safer and is to be recommended when anesthesia is required in this condition. Recent studies of the pathologic changes produced by eclampsia, delayed chloroform poisoning and chloroform anesthesia have shown a striking similarity in the findings in all three conditions.

The pathologic picture in each is that of congestion, hemorrhage, degeneration and necrosis. Our knowledge of the pathology of eclampsia is of comparatively recent date, but thanks to the work of Jurgens, Schmorl, Williams, Ewing, Welch and others the lesions are now well recognized and generally accepted.

The changes are mainly those of congestion, hemorrhage, parenchymatous degeneration and necrosis. The liver and kidneys are the organs chiefly involved. The lesions vary with the clinical type. Thus, in those cases characterized by vomiting, jaundice, a tendency to hemorrhage, with little edema and slight albuminuria, the liver is the organ most involved, as seen in Figures 1 and 2, which represent respectively the liver and kidney of the same patient. Here the liver is markedly involved and the kidney but little involved.

On the other hand in the cases characterized by headache, high tension pulse, marked disturbance of the nervous system, marked albuminuria and edema, the kidney changes are more marked as is seen in Figures 3 and 4, which represent the liver and kidney respectively of another patient. Here the liver changes are slight and the kidney changes very pronounced.

Although many border-line cases present themselves, still the two distinct types are easily recognized in every large maternity service. The lesions in the liver vary from granular and fatty degeneration, with congestion, to necrosis with almost complete dissolution of the liver parenchyma. This necrosis begins at the center of the lobule and extends towards the periphery, leaving only a mass of granular detritus surrounding the central vein, the nuclei and cell contents disappearing with only a reticular network in the place of the liver cells. Thromboses with hemorrhage occur throughout the lobule more often at the periphery (Figure 5). The organ may be swollen or diminished in size, according to the change in the parenchyma. It usually shows a yellowish color and may have hemorrhages under the capsule.

The kidneys are swollen, the cortex thickened, pale and congested, the markings less distinct, and the capsule not adherent. Microscopically the cells of the cortical tubules are swollen, in many places disintegrating. The vessels are injected and the tubules contain much granular material. Other changes described are moderate fatty degeneration of the heart; edema, congestion, and hemorrhages in the brain. The body often shows edema, subcutaneous hemorrhages and jaundice. The above are the pathologic changes found in the severe grades of toxemia of pregnancy and eclampsia.

Now what are the pathologic changes produced by chloroform, which until recently has been largely used in the toxemic condition?

Delayed chloroform poisoning as such has been frequently recognized and carefully studied both clinically and pathologically for the last twenty years. Many writers have reported series of fatal cases, all showing symptoms and lesions which are now recognized as typical of the condition. A number of these deaths occurred after only twenty or thirty minutes of anesthesia, untoward symptoms developing a few hours to a few days after the administration. The symptoms include progressive weakness, pallor or cyanosis, restlessness, vomiting, delirium, convulsions, stupor, coma and death. The organs principally affected are the liver and kidneys. The former is yellow and fatty, with hemorrhages often under the capsule and throughout its substance. The typical picture is that of a central necrosis (Figure 6). The cells about the central vein disappear, leaving only a mass of granular material which shows neither nuclei nor cell outline. Nearer the periphery of the lobule is a zone of swollen cells, which have undergone hyaline and fatty degeneration. A few normal liver cells may remain at the periphery. The kidneys are swollen, markedly congested, with occasional hemorrhages under the capsule, about the tubules, and in the pelvis. The cortex is thickened, the markings indistinct. Microscopically the cells of the tubules are greatly swollen, granular, and loaded with fat. The lumen is filled with granular material, fat globules and coagulated serum. The heart muscle often shows some fatty degeneration. The changes are generally considered to be more profound in the liver, though some observers have found the kidney degeneration even more marked.

The reports of these cases of delayed chloroform poisoning with their pathologic findings led naturally to a study of the lesions produced by chloroform anesthesia. Many animals were used in these experiments, most often dogs, rabbits and guinea-pigs. These studies were exhaustive and include the work of Lengemann, Ostertag, Stiles and McDonald, Stassman and others, together with the more recent work of Howland and Whipple. The most striking result of these studies was the extent of the degeneration and necrosis found in the liver and kidney after chloroform anesthesia of a short duration.

It has been found that characteristic lesions are regularly produced, varying in degree with the duration and depth of anesthesia and also with idiosyncrasy. Thus after thirty minutes to one hour anesthesia with chloroform, the centers of the lobules of the liver show congestion with granular and fatty degeneration, the innermost cells being necrotic, their nuclei not taking the stain and the protoplasm being deeply stained pink with eosin (Figure 7). With more prolonged action the changes approach those found in delayed chloroform poisoning in man. The liver appears yellow and fatty with scattered hemorrhages. The cells about the centers of the lobules are entirely necrotic, a granular mass remaining. Outside of this is an area of cells which have undergone hyaline and fatty degeneration, with normal cells at the periphery. In some cases the liver cells have almost entirely disappeared with only a few scattered living cells in the portal spaces (Figure 8). In the kidney, chloroform anesthesia causes a marked congestion with a cloudy swelling and occasionally hemorrhages into the parenchyma. The cells of the tubules are swollen and granular, occluding most of the lumen; in other places they have disappeared entirely. Fatty degeneration is present and in many cases pronounced (Figure 9). The heart muscle may be pale and show fat droplets in its fibers. Hemorrhages occur throughout the body, particularly in the serous membranes, and in the intestinal and stomach mucosa.

Howland and others were able, almost at will, by continuing the anesthesia to produce delayed chloroform poisoning in dogs, with symptoms and lesions corresponding in detail with those of delayed chloroform poisoning in man. Thus we find in these three conditions, eclampsia, delayed chloroform poisoning in man and chloroform anesthesia in animals, many similarities. Pathologically there is central necrosis, parenchymatous and fatty degeneration in the liver; congestion, parenchymatous and fatty degeneration in the tubules of the kidney and a tendency to hemorrhages throughout the body. Clinically in delayed chloroform poisoning and in eclampsia there are vomiting, jaundice, delirium, convulsions and coma. With these facts before us, showing that chloroform acts as a poison to the liver and kidney, it certainly seems that its use in toxemia of pregnancy and eclampsia would still further impair these organs already damaged.

In turning to ether as a substitute, the question naturally arises, Does ether produce lesions in the liver and kidney similar to chloroform? Some work has already been done along this line, notably by Bandler, Lengeman and Leppmann, and it was partly to confirm scattered observatons on this subject that a further study of ether anesthesia was undertaken.

In our experiments six mongrel dogs of medium size were given ether by inhalation from an open cone. They were killed with ether forty-eight hours after the last anesthesia and autopsied at once.

Tissues were fixed with Müller's fluid and 10 per cent. liquor formaldehydi equal parts, and stained with hematoxylin and eosin. Fat was stained with Altman's fluid, Scharlach R. as control. Sufficient ether was given to produce complete muscular relaxation with loss of corneal reflex.

Dog 1. Given ether for 3 successive hours.
Dogs 2 and 3. Given ether 2 hours each on 2 successive days.
Dog 4. Given ether for 2½ hours on 2 successive days.
Dog 5. Given ether for 3 hours on 2 successive days.
Dog 6. Given ether for 2½ hours on 3 successive days.

With Dogs 3, 4 and 6 a section of liver and kidney was taken at the beginning of the first anesthesia for control. The dogs all took the anesthesia well and appeared bright and active throughout the experiments with the exception of Dog 3. This dog required artificial respiration twice, had a slight cough on the first day, which became more marked on the following days. It showed no pneumonia on autopsy.

In none of these animals could any necrosis in any of the parenchyma be found. In the lungs occasional small areas of a deeper red than the surrounding substance, containing an increase in amount of blood on section, showed congestion. The heart muscle in each dog was found to be of normal color, striations distinct, no apparent increase in fat.

There were no hemorrhages in the mucosa of the stomach and intestines.

The livers were of a good color throughout, the vessels in a few places standing out a brighter red than the surrounding structure. The yellow appearance was entirely lacking, the cells throughout preserved their outlines with contents intact (Fig. 10). There was no suggestion of necrosis at any point. The protoplasm was somewhat granular and small droplets of fat were found in the cells about the central veins and in the portal spaces. This fat was only slightly in excess of that in the controls.

The kidneys were of normal size, capsule not adherent, cortex not thickened, markings distinct. Microscopically the cells of the tubules were well preserved throughout; their outlines were distinct, the nuclei staining sharply, the protoplasm granular, the tubules containing in some places some granular material. Fat globules were present in a few of the straight tubules and in the lining cells. This condition seemed no more than is normally found and no more marked than in the controls taken. The condition is well shown in Figure 11.

No pathologic changes could be found in any of the sections of pancreas and spleen. These facts seem to demonstrate that in animals, at least, ether produces practically little effect on the liver and kidney as compared with the very marked changes in these organs produced by chloroform, and, while it may be argued that this comparison has been demonstrated only in animals, the similarity between the lesions of delayed chloroform poisoning in man and chloroform anesthesia in animals makes it appear more than probable that reasoning as to the effect of ether on the liver and kidney of man, from the lesions produced by ether in animals, is entirely justified.

Impressed with the above facts, one of us in his service at the Sloane Maternity Hospital has abandoned entirely the use of chloroform during the past year, in all cases of toxemia of pregnancy or eclampsia, either for operative procedure or for the control of convulsions, and has employed ether in these conditions whenever an anesthetic was required.

During this period, aside from numerous cases of toxemia, there have been 20 cases of true eclampsia, *i. e.*, toxemia with convulsions varying in number from one to thirty-one. In the treatment of these patients no attempt has been made to control the convulsions by means of the anesthetic. This end has been sought through lowering the blood-pressure and quieting the nervous system by the use of veratrum, chloral and nitroglycerin. Ether has been used whenever an anesthetic has been required during the delivery. Former experiences with attempts to control the convulsions by chloroform proved that it was practically impossible. Recent experiences without attempts to control the convulsions by an anesthetic have given results which compare favorably with those of former methods. Of these twenty patients only one died, and she was practically moribund when brought to the hospital, with jaundice, vomiting, scanty and bloody urine and with the liver necrotic. This gives a mortality of 5 per cent. In the last twenty cases of eclampsia in which chloroform was used there were five deaths, a mortality of 25 per cent.

In a series of 20,000 deliveries previous to this last year there were 251 cases of eclampsia, with a mortality of 71, i. e., 28 per cent.

It may be asked whether or not the twenty patients in the recent series were as seriously ill as those of the previous series. Not only did it seem to us that they were as seriously ill at the beginning of treatment, one of the nineteen who recovered having thirty-one convulsions, but it also seemed that others having toxemia were perhaps spared eclamptic seizures by the avoidance of the use of chloroform in this condition. It is freely admitted that a series of only twenty cases of eclampsia is a small number from which to draw positive conclusions, but the marked effect of chloroform on the organs usually involved in eclampsia and the slight effect of ether on these organs makes the use of chloroform in this condition seem irrational and the use of ether rational.

For the loan of the specimens from which the photographs of Figures 7, 8 and 9 were taken we are indebted to Dr. John Howland of New York.

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THE ETIOLOGY OF ECLAMPSIA *

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ECLAMPSIA A DISTINCT DISEASE

The most recent conception of eclampsia is that it is the culmination of toxemia of varied origin. Its crises are manifested by convulsions; explosions of pain, cerebral or substernal; gastric and intestinal irritation; blood or blood-vessel dyscrasia, producing pernicious anemia and hemorrhages, retinal, of mucous membranes, retroplacental, cerebral or general; or as an acute degenerative process of the liver or other organs. We wish to develop this idea to prove that eclampsia is a distinct disease, with a definite pathologic picture, that at times convulsions prove the constant feature, but not invariably so.

We may have eclampsia with a typical picture without convulsions. In such cases the eclamptic seizure is manifested (1) by a headache of agonizing, blinding type, in which the patient may become unconscious from the pain; or (2) perhaps as a burning substernal pain, which is, in our experience, an almost constant feature of the preeclamptic stage, and may also accompany the convulsive type; (3) as a form of blood disintegration in which the poison may produce an anemia, as marked as pernicious anemia, and giving the same blood picture and physical signs, perhaps somewhat more rapid in its course; (4) as an irritant poison to the blood-vessels, as well as to the blood, a condition in which the blood contains various unformed principles or such an excess of normal principles as to produce irritation and even disease and disintegration of blood-vessel walls, which conditions result in sharp hemorrhage from any of the mucous membranes, from the placental site either before or especially after delivery, and into the retina or brain substances; and (5) as a type of acute degeneration of liver substance, simulating acute yellow atrophy; under such conditions other organs may also share in the degenerative process, but not so markedly as the liver.

We then believe that any one of the foregoing conditions may exist as a type of eclamptic seizure, that such patients may have associated with these other types the convulsive effort also, but that a certain percentage of them may become unconscious and die from these causes without at any time having convulsions, and would then have died of eclampsia.

THE TOXEMIA OF PREGNANCY

Any inquiry into the etiology of eclampsia includes a study of the toxemia of pregnancy, particularly that developing after the twelfth to sixteenth week of gestation. As a constant factor in all forms of eclampsia is found some form of toxemia of longer or shorter duration. This must be thoroughly understood in order to grasp the cause of the disease.

We have been called to see a private patient whom we had not known to be either pregnant or ill and found her in the last efforts of a severe and overwhelming convulsion from which she died in less than twenty minutes. This patient had been talking cheerfully to her mother within the hour, had walked up stairs to her room and on hearing her fall the family sent for a physician. On inquiry we found that she was about four and a half months pregnant, that she was excessively constipated and had had a severe headache the evening previously. This was a toxemia of severe grade and of short duration, but nevertheless, a toxemia.

Toxemia as an intermediary step between the ultimate cause and the critical manifestation, is the result of some acute or chronic disturbance of a vital organ, either excretory or secretory. Such disturbance may be purely functional or may be constant, the latter as the result of permanent pathologic changes. Toxemia may be classified from the organ showing the greatest amount of disturbance as gastro-intestinal, hepatic, nephritic, thyroid or parathyroid, placental and fetal.

Whether this disturbance is due to the fact that some perverted metabolism in that particular organ is a primary cause for the toxemia remains to be proven. The study of the pathology and the chemistry of the pathology of these organs and their secretions or excretions, however, must give us further light on the ultimate cause. In succession studies were made of the sulphates, creatinin, the chlorids, lactic acid, acetone bodies, indican, urea and of the nitrogenous principles, in order to discover a chemical cause or defect in metabolism evidenced by some chemical changes in excretions, our inability to study thoroughly all of the excretions being the handicap in this direction. With the exception of urea and the protein principles, these studies and theories have thrown little, if any, light on the etiology.

The work of Zweifel,[1] Ewing and Wolf,[2] Williams and others has, however, in the past few years fixed firmly some facts in regard to the nitrogenous excretion in the urine of utmost value in the study of eclampsia.

By tracing the nitrogen in the urine back to its source it was found that the normal excretion in health according to Folin, is as follows:

Total N in 24 hours		15.8 gm.
Urea	N	87.7 per cent.
Ammonia	N	3.3 per cent.
Creatinin	N	2.7 per cent.
Uric Acid	N	0.7 per cent.
Purin Bodies	N	0.7 per cent.
Undetermined	N	5.6 per cent.

It was found that in eclamptic patients the urea nitrogen is persistently lowered sometimes even to below 50 per cent. of the total, while usually the ammonia nitrogen is above normal, although it may be below. But as a constant factor the undetermined nitrogen is high, taking up much of the lowered urea content.

From these variations we deduce the fact that somewhere in the organism there is a deficient changing of ammonia and amino-acids into urea. This has been called "deficient desamidation" by Ewing, who asserts

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

[1] Zweifel: Arch. f. Gynäk., 1904, lxxii, 1905, lxxvi; Zentralbl. f. Gynäk., 1909, No. 26.

[2] Ewing and Wolf: Jour. Med. Sc., May, 1906; Am. Jour. Obst., March, 1907.

that the process is more than an oxidation. This work is in a great measure performed by the liver, and therefore we are not surprised to find the liver most severely involved. We should be misled however, if we considered any condition of the liver as a primary cause, for the process of "desamidation" is complex, so complex that no one organ can be responsible.

Though we are forced to admit that these studies give no definite light as to the etiology of eclampsia, yet they have proved of value in treatment and in prognosis. We have found that in those cases in which the nitrogen ratio was disturbed the greater liver involvement occurred, producing the most severe eclampsia and usually at some time, unless corrected, ending in convulsions.

Studies have also been pursued along the line of thyroid secretion. We know that normally during pregnancy the thyroid is enlarged, and its function evidently increased, and from a purely theoretical standpoint we were led to suppose that in this internal secretion was found something to help the blood and body organism combat syncytial invasion. In a certain type of cases manifested by a high grade of toxemia we find hemorrhages from the mucous membrane of the bowel, stomach and mouth and an anemia showing marked blood disintegration and leading finally to eclampsia and perhaps death of the fetus. We have found that the careful administration of thyroid extract in small doses throughout the pregnancy has in future pregnancies after several disasters produced healthy children and that the mothers are even able to nurse the babies. In this type of cases also, the nitrogen partition is markedly altered, the alteration pursuing the same general type of eclamptic urine.

In past years the kidneys were blamed for much of this trouble. We now know that the cases are few in which the breakdown of the kidney in any way acts as a primary factor. The kidneys are secondarily involved in nearly all of the cases, but they may not be so even in the course of the most severe eclampsia. When the kidneys are the primary cause, we usually find widespread arterial changes and albumin and casts in the urine. There may or may not be a change in the nitrogen ratio. And we believe that such a change of undetermined nitrogen is, under these circumstances evidence of the present status of liver involvement over and above the kidney disease. The crisis of this type may assume the form of general severe hemorrhages.

There then remains the placenta and fetus to which we can ascribe a primary cause. Eclampsia occurs only in pregnancy and is a disease developing invariably after the time of placental formation. So we find in the past few years that the papers written on placental or syncytial cause of eclampsia are legion. From an exhaustive study of these theories we believe that no one has been proved, the most plausible being that based on the work of Bergell and Liepmann[3] (1905) and Savare[4] (1907) on the ferments, and the papers of Dryfuss,[5] Mathes,[6] etc., on autolysis. The normal placenta is rich in ferments.

1. Those acting on carbohydrates.
2. Glycolytic ferments (a question).
3. Proteolytic ferments.
4. Blood-coagulating ferments (Savare).

Any perversion of these useful ferments produces widespread disaster; namely, multiple hemorrhage and changes in the entire placental functions causing, by the retention in the mother's body of unchanged principles, an excess in her blood of principles normally changed into innocuous food for the fetus, and even autolysis of the placenta itself. When we ask, however, what causes the perversion of these normal ferments, we find no answer.

Let us quote from Holland's[7] summary of these theories:

> From the foregoing account, it is obvious that, during the past six years, a number of valuable facts as to the etiology of eclampsia have been discovered. It is equally obvious that a number of worthless theories have been propounded, many of which have been disproved, but which, nevertheless, have served the good purpose of paving the way for better work. As far as it is possible to draw conclusions, the following are suggested:
>
> 1. There is no special eclamptic toxin.
>
> 2. Chemical discoveries have shown that eclampsia is an auto-intoxication, in which a profound disturbance of protein metabolism plays a chief part, the nature of which now rests on a firm basis.
>
> 3. The chief toxic substances are the products of the disintegration of protein.
>
> 4. In eclampsia, intracellular ferments, especially proteolytic, are raised in activity throughout the body, causing autolysis of cells and production of the above toxic substances.
>
> 5. The primary cause of eclampsia is to be sought in the placenta.
>
> 6. As regards the connection of the placenta with eclampsia:
>
> I. The "specific placental theory" of Veit[8] must be considered dead; the various specific placental reactions (syncytiolysis, precipitins, etc.), whether produced naturally or experimentally in animals, do not exist.
>
> II. Placental extracts possess no special toxicity for animals, beyond causing coagulation of the blood and death from extensive thrombosis.
>
> III. The eclamptic placenta has no special toxicity.
>
> IV. The intracellular ferments of the placenta are increased in activity in eclampsia. In the light of present knowledge, the most probable theory of the cause of eclampsia is an intoxication of the body by the passage of ferments and autolytic products from the placenta into the circulation, the principal effect of which is increased coagulability of the blood and the activation of autolytic ferments in other parts of the body.

THE PATHOLOGY OF ECLAMPSIA

In the study of the effects of eclamptic toxins on the different organs, we find that so definite are the changes that a diagnosis can now be made post mortem without the clinical history. There are usually edema and hemorrhages in the brain. The kidneys show, in over 95 per cent. of cases, active degeneration of the parenchyma, principally the epithelium of the convoluted tubules. Even in severe cases, however, the changes may be slight. The heart shows cloudy swelling and fatty degeneration, perhaps hemorrhages and necrosis. There may be general thrombosis and hemorrhages into other organs.

We are principally concerned with the picture in the liver. The best work in this has been reported by Konstantinowitsch,[9] who asserts that the diagnosis may be made from the liver alone. This is a progressive change which first manifests itself by a degeneration of liver cells in the portal spaces at the periphery of the lobule, by fibrin formation and by hemorrhages, then by necrosis and extension of the process to larger areas of liver cells progressively toward the center of lobule from the periphery.

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[3] Bergell and Liepmann: München. med. Wchnschr., 1905, No. 46.

[4] Savare: Zur Kenntnis der Fermente der Placenta, Beitr. z. chem. Physiol. u. Path. (Hofmeister), ix, 141.

[5] Dryfuss: Chemische Untersuchungen über die Aetiologie der Eklampsie, Biochem. Ztschr., 1908, vii.

[6] Mathes: Ueber Autolyse der Placenta, Zentralbl. f. Gynäk., 1901, No. 51.

[7] Jour. Obst. and Gynec. Brit. Emp., December, 1909, p. 398.

[8] Veit and Scholten: Syncytiolyse und Hämolyse, Ztschr. f. Geburtsh. u. Gynäk., xlix; Zur placentaren Theorie der Eklampsie Aetiologie, Arch. f. Gynäk., lxxxvii; Ueber die Aetiologie der Eklampsie, Ztschr. f. Gynäk., l.

[9] Konstantinowitsch: Beiträge zur Kenntnis d. Leberveränderungen bei Eklampsie. Beitr. z. Path. Anat u. z. Allg. Path. (Ziegler). xl.

METHODS OF DIAGNOSIS

We should leave this review unfinished should we omit the methods by which we make a diagnosis of toxemia and eclampsia. Normal physiologic pregnancy is not an uncomfortable process. The deviations may begin with a slight lassitude, even hebetude, stupor and coma, or again, with melancholia, or even mania, which are all manifestations of toxemia. Usually there are progressive headache, disturbance of the stomach, disturbance of vision and constipation. The skin is dry and harsh, the lips cracked, the mucous membranes of mouth parched and dry without fever. There may be swelling of the ankles, emaciation, or perhaps a general puffiness of the skin over the entire body or only over the ankles, hands or face; there may be epigastric or substernal pain, perhaps an exaggeration of some latent nervous phenomena, as for example chorea or insomnia.

In preeclamptic toxemia and in eclampsia the blood-pressure is usually higher than normal for that patient, ranging from 170 to 180 or even 200 mm. of mercury. In the severer forms this persists, in spite of treatment, and tends to grow more marked, until convulsions or some other crisis appears. A study of the blood-pressure record should be part of the routine investigation of every pregnant patient early in the pregnancy or better still when not pregnant, a record of the patient's normal pressure should be secured; should the patient become toxic, one of the earliest signs of toxicity is this increased blood-vessel tension.

Since the first point noticed about the urinary findings is that there is usually a markedly decreased total daily output, we would urge increased study of this point in all pregnant patients. At times the only defect may be the lowered total daily output of an apparently normal urine. The specific gravity varies, in the inverse ratio to the quantity excreted. The next point noted is the progressive decrease in the daily output of solids. This may be studied approximately by investigating the total output of urea. We have found, however, that, up to the present time, the most definite indication of any toxemic disturbance, earlier than can be secured by any other method, is found in a study of the partition of the different forms of nitrogen found in the urine. Earlier in the paper we gave the normal ratio. The average daily output varies in pregnancy from 10 to 20 gm. per day of nitrogen excreted. It seems to be not so much the lowered output of total nitrogen within a certain range, as the definite change in the relations of the different forms. A lowering of the urea nitrogen, an increase of undetermined nitrogen, and some change in the ammonia nitrogen shows a beginning toxemia. With the tendency for these changes to persist or grow worse, we find evidence of oncoming eclampsia. Albumin is present in the advanced stages of the disease. It is entirely misleading, however, to base the diagnosis entirely on albumin, since very often it is not present in severe grades of toxemia. The presence of sugar, of acetone bodies, of an excess of indican or of peptone is an indication of faulty metabolism requiring careful watching. The presence of granular epithelial or fatty casts is positive evidence of kidney breakdown.

An early examination of the retina is of importance in all toxemic cases. We recall several patients who came to us, because some defect in vision led to an eyeground examination and the advice from the ophthalmologist to seek relief for a kidney condition. The findings are those of arterial degeneration of the retinal vessels and hemorrhages into the substance of the retina.

A careful examination of the blood of toxemic patients proves of some value. In preeclamptic toxemia and in eclampsia we *find a reduction of the hemoglobin and* red cells with a moderate leukocytosis, the latter, on making a differential count, showing little variation from the normal.

SUMMARY

Those ideas which will prove of value from this study are as follows:

1. Eclampsia is a distinct disease with varied manifestations and a definite pathologic picture.
2. There is some relation between the fact that an altered nitrogen ratio is found in the excretions and the fact that the liver is the organ most seriously involved.
3. A study of this progressive nitrogen disturbance may prove a guide as to the point beyond which the liver involvement cannot go and allow regeneration and recovery.
4. While no placental theory has yet been proved, the most plausible theory is that some ferment from the placenta may prove responsible as a primary cause for the condition because of deficient or deranged action.
5. Any preexisting permanent pathologic condition may prove an exciting cause and still perhaps act by disturbing placental function.
6. Eclampsia should be a rare condition in the hands of a skilful, thorough investigator.

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THE SURGICAL TREATMENT OF ECLAMPSIA*

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There seems, at this time, to be hardly any question but that women suffering from eclampsia do better if the uterus is emptied promptly on the appearance of convulsions. Carl Braun emphasized the fact that the convulsions ceased or became less severe after delivery. Dührssen showed that in 93.75 per cent., and Olshausen that in 85 per cent. such a result followed. Seitz, in a very large collection of statistics, proves it conclusively. If further proof were needed, Winter brought it, in 1909, at the congress in Budapest, where he showed that of twenty patients delivered before they had had six convulsions not one died, and in thirty-two cases, only three women were lost, while by a waiting policy, the mortalities were much greater, as follows:

Eclamptics treated expectantly with spontaneous labor, 8; mortality, 40 per cent.

Eclamptics, with expectancy till os was fully dilated, 19; mortality, 30 per cent.

Eclamptics, with mild measures used for hastening labor, (metreurysis, incisions, etc.), 32; mortality, 25 per cent.

Eclamptics with vaginal Cesarean section, 34; mortality, 9 per cent.

Eclamptics with vaginal Cesarean section immediately after first attack, 22; mortality, 0 per cent.

Bossi dilator used, number not given; mortality, 36 per cent.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

In the discussion which followed, Bossi reported 395 cases in which his instrument had been employed with a death-rate of only 9.45 per cent. In the Berlin Charité during the years from 1904 to 1909 the mortality of the cases delivered within the first six hours was only 3.8 per cent.

THE OLD AND THE NEW VIEWS

I have always taken a skeptical stand as to the usefulness of statistics and usually discard them unless they cover a long period of time and comprise very large numbers. The individual opinion of those competent to judge is much more valuable. There seems to be a trend of the formerly most conservative obstetricians, toward a more and more early operative delivery. Jaggard taught the expectant or medical treatment and this, therefore, was my own practice for many years, but added experience has convinced me that the women do better if the uterus is emptied at once. The convulsions cease more often, or grow less violent, and at longer intervals, consciousness returns earlier and convalescence is sooner established. While no special record has been kept, it seems to me that the pathologic findings in the urine disappear earlier than with older methods of treatment. One of the strongest arguments for early delivery is the immense improvement of the child's chances for life, various statistics showing that twice, and even three times as many children are saved by early delivery. Much depends on the time in pregnancy of the outbreak of the convulsions and on the method of delivery.

THE PROBLEM TO BE MET

Since it is the best policy to empty the uterus early, a discussion of the treatment of eclampsia before delivery resolves itself into the consideration of the methods to be employed in individual cases. Since removal of the child is opposed mainly by the soft parts, the subject of treatment is narrowed down to a discussion of how best to prepare a way for the child through the cervix and vulva. The method of effecting delivery depends on the period of pregnancy, the environment of the patient, the state of the cervix, the skill of the operator, and the extraneous complications such as contracted pelvis, placenta prævia, heart disease, infection, etc.

Before the seventh month, the fetus always dies, either during or soon after delivery, and it is, therefore, necessary only to obtain sufficient dilatation of the cervix for the performance of craniotomy and extraction. After the period of viability, one must try to save the infant also.

If the patient is in a well-equipped maternity hospital and a man capable of his task is at hand, immediate delivery is practiced, overcoming by operation, the resistance of the cervix and perineum. If the patient is in a private house, and the obstetrician is without skilled assistance, reliance must be placed on medical treatment and on less active surgical measures. Here, puncture of the membranes, the use of the colpeurynter, and, when the cervix is almost completely dilated, manual dilatation of the balance, with episiotomy and forceps delivery or version and extraction depending on the conditions.

THE CONDITION OF THE CERVIX

The state of the cervix is the all-governing condition so far as the choice of method of rapid delivery is concerned. If the cervix is fully dilated, or effaced and the os has a diameter of 8 cm. (about 3 in.) delivery may safely be effected at once by forceps if the head is engaged, by version and extraction if the head is movable above the inlet. In primiparæ, I prefer to force the head down into the pelvis and then apply forceps rather than do a version.

If the cervix is effaced, that is, shortened, or taken up, or obliterated, but the os not sufficiently dilated, one may easily procure sufficient enlargement of the opening by manual dilatation, or stretching the os by means of one of the mechanical dilators about which there was such a furore several years ago. Hydrostatic bags may also be used for this purpose or the thin partition between the uterus and the vagina may be incised.—Dührssen's incisions. Manual dilatation is the method of choice in this particular class of cases, then episiotomy (in primiparæ) to overcome the resistance of the perineum, followed by forceps delivery.

The greatest discussion has arisen as to how to deliver in those cases—and they are the most frequently met—in which the cervix is uneffaced, tightly closed, and not admitting even the tip of the finger. Manual dilatation, metreurysis, Dührssen's incisions, vaginal Cesarean section, abdominal Cesarean section, each has adherents. I have had experience with all these methods and in the following will give my own opinion of each.

MANUAL DILATATION

Manual dilatation of the closed cervix with delivery is an operation, which, in the olden time, was called *accouchement forcé*. It requires from one to three hours and is often painfully tiring to the fingers and hands. It is invariably attended by lacerations of the cervix, and these tears are often deep, sometimes even of the importance of a rupture of the uterus, opening the peritoneal cavity, causing death, from hemorrhage or from sepsis. In multiparæ, the lacerations are usually somewhat less extensive. In all cases, the cervix is bruised and battered, and sepsis, even in the hands of the cleanest obstetrician is sometimes unavoidable.

Philander Harris and a few other authors, take a different view of this operation, but my own experience makes me oppose it, and in this, I am supported by all the German authorities. The latter demand the following prerequisites for the operation:

1. Cervix effaced.
2. Pelvis normal.
3. Child not too large.
4. Normal presentation, position and attitude, or one that can be produced.
5. Dilatable vagina.

In a few cases I found the parts so soft and dilatable that it was possible to stretch the uterus open sufficiently for safe delivery, but these are so rare as to be truly exceptional.

METREURYSIS

By putting a colpeurynter in the lower uterine segment and exerting traction on it, two things are accomplished—uterine action is set up and strengthened and the cervix is mechanically dilated from above downward, the bag acting like a fluid wedge. In cases in which no urgency exists, metreurysis is the ideal method of opening the uterus, because it imitates most closely the natural process. In favorable cases, that is, soft cervix and large vagina (conditions rarely found in primiparæ) it is possible under anesthesia, to dilate the cervix completely in from one to two hours, but if the cervix is rigid, and tightly closed, an attempt to force it open by means of bags in this time would fail, if it did not rupture the uterus. Unfortunately rigid cervix is a frequent complication of eclampsia, since this condition is commoner in primiparæ and women of advanced years. Contraindications to metreurysis in eclampsia are, scars of the cervix, abnormal rigidity, complete closure of the cervix in a primipara, edema of the paracervical tissues, local infection, great urgency.

One may, in selected cases, procure partial opening of the womb with the bags, and then complete the dilatation by incisions or the vaginal Cesarean section. A word of warning to those using the bags for cervical dilatation. If too much water is put into them, or too much traction put on the tube, the uterus is stimulated to over-violent action and may rupture. This is especially likely to occur in placenta prævia. I use a large Voorhees bag in preference to all others.

INSTRUMENTAL DILATORS

Bossi introduced his branched dilator in 1887, but it received no general recognition until 1898 when Leopold, of Dresden, reported seventeen cases of eclampsia treated with it. It was then very extensively employed and many modifications of the instrument invented. Bossi used it when the cervix was closed, as did many others. Now, most authors have discarded it, and Bossi, himself, at the Budapest congress, said it should be used only when the cervix is effaced. Bossi reported 395 cases of eclampsia treated by rapid dilatation with a mortality of 9.45 per cent.

In a multipara, with a soft cervix, the instrumental dilator may occasionally accomplish the purpose without laceration or with negligible injuries. In other cases more or less deep tears are inevitable and the frequency of serious injury has relegated the instrument to a very subsidiary place. I would deny its usefulness in the class of cases under consideration and agree with Pfannenstiel that, in the clinic, the dilator is superfluous; in private practice, dangerous.

DÜHRSSEN'S INCISIONS

In the class of cases being discussed, the cervical incisions are contraindicated. Only when the cervix is effaced, shortened or fully taken up, when there is but a thin partition between the uterus and the vagina, are such incisions justifiable. Before this time, the large blood-vessels have not yet been retracted upward out of reach of the cut, the peritoneum has not been pulled up, the connective tissue of the broad ligaments is still in the pelvis. If one cuts the thick cervix now, there is danger of severe, perhaps uncontrollable hemorrhage. the incision is easily torn into the peritoneal cavity, and further, the attempt to draw the fetus through the pelvis will disrupt the whole connective tissue framework of the pelvis. Dührssen's incisions are also contraindicated if the child is large or presents abnormally.

VAGINAL CESAREAN SECTION

As was indicated at the beginning of this paper, this operation has given the best results of any yet obtained, especially when it is performed immediately after the first convulsion. It is considered by Dr. H. D. Fry in one of the papers of this symposium.

ABDOMINAL CESAREAN SECTION

This operation, proposed by Halbertsma in 1889, has not obtained the recognition it deserves. The statistics collected showing 30 to 60 per cent. maternal mortality, surely give too dark a picture, for it must be remembered that only the worst cases are submitted to the operation. Newell condemns the section, but Olshausen recommends it. It saves more infants than any other method of delivery, and is to be preferred when these complications coexist: contracted pelvis, placenta prævia, marked edema of the vulva, vagina and parametrium, scars or extreme rigidity of the cervix and perineum, unusual brittleness of the cervix, enormous varicosities of the genitals, large child, abnormal presentation. In the latter cases, the vaginal section often meets with insurmountable difficulties. A less skillful operator may be able to do the classical section when he would hesitate to operate from below.

With the extra-peritoneal Cesarean section, a resurrection of the laparo-elytrotomy of the last century, I have had no experience, but am inclined to believe that the advantages claimed for it are somewhat overdrawn. The technic is more difficult than that of the classical section; hemorrhage from the incision is sometimes dangerous; the Trendelenburg posture is needed and this increases the danger of air embolism and cerebral thrombosis already exaggerated in eclampsia; extraction of the child is harder and is oftener fatal to the infant; in 21 per cent. of the 65 cases reported by Pfannenstiel, Latzko and Fraipont the peritoneal cavity was opened, and in three, the bladder was injured; sometimes the bladder cannot be safely removed from the uterus and the transperitoneal route must be taken; the labor must have progressed till the uterus has drawn the peritoneum upward and unfolded the anterior plica—this is impossible in eclampsia, which demands instant delivery; the danger of infection of the immense connective tissue spaces is probably as great as that of the peritoneum, at least suppuration has been frequently reported (Rubeska, Franz), and hernia is just as possible, Franz having already found one with the bladder and another with the cervix in it; the danger of rupture of the uterus in subsequent labor is greater than with the classic operation because the scar is in the thinned dilated portion, and further, a second Cesarean section would be very difficult through the scarred cavity of Retzius; Latzko collected 137 cases which showed a maternal mortality of 7.3 per cent., while this is considered a high figure for the classical section.

Subjects of kidney and liver disease are generally considered poor subjects for laparotomy, and the danger comes mainly from the anesthetic. By means of nitrous oxid and oxygen anesthesia, this element may be reduced to an almost negligible minimum. Given a primipara, at or near term, with a long closed cervix and living child, the patient being in a good maternity hospital, I would strongly incline to abdominal Cesarean section.

RIGIDITY OF VAGINA AND PELVIC FLOOR

In the discussion of operative delivery, the resistance opposed by the cervix only has been mentioned, but the vagina and pelvic floor must by all means be considered. Rigidity of these structures is one of the strongest arguments against vaginal Cesarean section, because even if we do the deep perineotomy advised by Dührssen, it is not always possible to avoid extensive lacerations of the vagina, the pelvic floor, the perineum, the anus and the bases of the broad ligaments.

In performing episiotomy, one should not be afraid of cutting deeply into the levator ani muscle, because this can be accurately sutured, whereas, if brute force in delivery is used, the muscle may be torn from the bony attachments—an irremediable injury. Where only slightly more room is needed, this may be obtained by stretching the muscle with the fingers or fist, but I have seen deep lacerations of the parts produced thus as well as by the head. I recommend the medio-lateral episiotomy and am not sparing with the incision.

A strong distinction must be made between hospital cases with an obstetric surgeon in charge and private practice by a general practitioner. For the latter, slower methods of treatment are to be recommended, first rupture of the membranes, then hastening the delivery as much as is safe, by metreurysis, manual dilatation, and, when the cervix is thoroughly effaced, incisions if necessary.

SURGICAL MEASURES

Venesection is a surgical procedure, but will probably be spoken of under the heading "medical measures," as also will saline solution administered hypodermically. Care should be taken with the dosage of saline solution, as edema of the lungs may be superinduced. Newell in one case transfused human blood.

Of the surgical measures special mention is to be made of decapsulation of the kidneys, first proposed by Edebohls. Chirié, in June, 1909, collected thirty-three cases of renal decapsulation, and finds that in only one-half of the patients do the convulsions cease after the operation, but many authors note that they are less severe. Unanimous accord exists regarding the postoperative diuresis—the amount of urine almost always increases, and there is decrease of the albumin casts, etc., and augmentation of the urea and solids. The edema subsides rapidly and consciousness returns quicker. The wounds heal well if due attention is paid to asepsis, but several instances are noted of suppuration due to dislocation of the dressings during convulsions and restlessness—one fatal case of infection and one fatal case of iodoform poisoning from gauze used in packing. In the one case in which I was consulted, the convulsions ceased, diuresis improved, but the woman died in coma three days after operation. It is impossible at the present time to pass judgment on this procedure, and also on the advisability of nephrotomy in addition to decapsulation. Sippel and a few German authors perform and recommend it. It is occasionally done in England and America. It has not had a fair trial since only cases that prove refractory to all other methods are submitted. Considering what we know of the causation of eclampsia, the operation is not rational, but it is perhaps as reasonable as any one of our other "specific" remedies. Chirié, in his thirty-three cases, found sixteen deaths, which is not encouraging. The literature will be found in Chirié's article, *Obstétrique*, June, 1909, and in the *Edinburgh Medical Journal*, May, 1909. Johnsen, in the *Deutsche medizinische Wochenschrift*, January, 1910, says that forty-two cases are on record with eighteen deaths. The general mortality of eclampsia is not as high as this.

ANESTHETICS

Early in my practice I learned two facts: one, that morphin given to eclamptics killed many of the babies and prolonged the postpartum coma, and the other, that chloroform is a very dangerous drug in eclampsia. It causes acute yellow atrophy of the liver and cardiac paralysis, acute and chronic. Whereas, I formerly advised anesthesia for every vaginal examination or manipulation to prevent a convulsion resulting from the local irritation, I now restrict anesthetics and narcotics to an irreducible minimum. For the operative delivery, I have used ether, but for Cesarean section I employ nitrous oxid and oxygen, because the child is delivered so rapidly that the preliminary asphyxia is of no moment. Cragin and Ewing also have emphasized the dangers of chloroform.

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VAGINAL CESAREAN SECTION *

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The history of vaginal Cesarean section is recorded in the last decade of obstetric literature. To Dührssen belongs the credit of having introduced the operation to the notice of the profession, while he and his German confrères have done much to elucidate the indications and technic of the operation. The result secured by them in the treatment of eclampsia by vaginal Cesarean section has reduced the maternal death-rate to a lower figure than that obtained by any other line of treatment. Fully nine-tenths of the literature on the subject is published in the German language. The United States comes second. A few articles are found in the French, Spanish and Italian languages.

In 1903 J. M. M. Kerr[1] published a report of a case of vaginal Cesarean section. Impressed with the value of the operation in the treatment of eclampsia, N. T. Brewis determined to employ the method in the next suitable case, and three years later reported to the same society six operations.

NOT IN GENERAL FAVOR

Stamm, of Fremont, Ohio, was the first to bring it to the attention of the profession in this country. Since then papers have been published by sixteen authors in the United States, who, with one or two exceptions, have endorsed the operation and recognized its value. In the discussions that have occurred on these various papers in our medical societies the general tone of debate has been against the operation. As a rule one will notice that the objections are based on theoretical grounds and the objectors have had little or no experience with the operation. In spite of opposition, however, favorable reports continue to appear and new advocates of the operation recognize and advise its performance. Palmer Findley prophesies that it will remain in general favor with only a few obstetricians and that, in the light of reported cases, the scope of the operation will be limited and vaginal Cesarean section will be little practiced.

He compares vaginal Cesarean section unfavorably with abdominal Cesarean section in eclampsia, on the ground that the latter is time-saving and the dangers less to the infant. The saving of time is questionable. It may take two or three minutes more to deliver the infant by vaginal Cesarean section, but the completion of the operation can usually be accomplished as soon as or more quickly than abdominal Cesarean section. When the mother is suffering from eclampsia the infant is already toxemic and generally is born dead, or dies soon after delivery. The difference of a few minutes in favor of delivery by abdominal Cesarean section will change the result for the infant too little to counterbalance the increased maternal mortality of the latter operation. The shock of abdominal Cesarean section added to the dangers of the operation on toxemic patients will give a higher maternal death-rate than when performed for other indications. Consequently we should not consider the favorable maternal death-rate of abdominal Cesarean section performed for different conditions as applicable to the situation presented when the mother is suffering from eclampsia. Edgar and Hirst quote the statistics of Charpentier for abdominal Cesarean section performed for eclampsia with a maternal mortality of 36.26 per cent. Hillman collected data on 40 operations with a mortality of 50 per cent. for the mothers and 45 per cent. for the infants. Olshausen has a mortality of 33.3 per cent.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Kerr, J. M. M.: Tr. Edinb. Obst. Soc., 1903.

INDICATIONS FOR THE OPERATION

The indications for vaginal Cesarean section presupposes a rigid os and undilatable cervix, and it is a valuable operation under the circumstances when the conditions point to the rapid evacuation of the pregnant uterus in the later half of gestation. Exceptionally it may be called for before that period, but it then is performed in the interest of the mother alone. The prompt termination of pregnancy may be required in the interest of the mother, or of the infant, or of both. The life of the unborn infant is so dependent on the welfare of the mother that disease compromising her life is liable to destroy the former. When toxemia has reached a degree that endangers the mother's life the same intoxication threatens to destroy the infant; when the loss of blood from accidental hemorrhage, or when advanced organic disease of the heart, with failure of compensation, threatens the life of the mother primarily it jeopardizes that of the offspring secondarily. Labor complicated by an undilatable condition of the os and cervix, physiologic or pathologic, endangers the infant primarily and the mother secondarily. Labor complicated by prolapse of the funis through a cervical canal unprepared for prompt dilatation compromises the safety of the infant and not that of the mother.

The indications under consideration for the employment of vaginal Cesarean section are restricted to its use in the treatment of eclampsia. These indications are viewed from the standpoint of the obstetrician and of the obstetric surgeon. Two years ago I read a paper in Chicago, before this Section of the American Medical Association, in which I presented my reasons for advocating prompt delivery in the treatment of eclampsia. This phase of the subject is presented to you to-day by other participants in the symposium, so my line of thought will take up for consideration the indications for vaginal Cesarean section from the standpoint of the obstetric surgeon.

To accomplish rapid evacuation of the pregnant uterus in the latter months, or at the expiration, of gestation we must recognize two important, cardinal steps in the operation: first, the dilatation of the cervix; second, the delivery of the infant.

The methods of delivery of the infant, whether by forceps or version, belong to the domain of the obstetrician. The consideration of the indications for vaginal Cesarean section from the standpoint of the obstetric surgeon presupposes that we have to deal with an intact and undilatable cervix. The cases are represented usually by primiparæ in the latter months of pregnancy and constitute that difficult class of patients in whom the obstetrician recognizes the complications to be met in the quick artificial dilatation of the cervix. Before considering artificial methods of rapid dilatation let us study briefly the natural method.

NATURAL METHOD OF CERVICAL DILATATION

Nature has one way to accomplish this purpose, and it is not done rapidly, but slowly, gradually, gently and without danger to the integrity of the soft parts. The intermittent force of the uterine contractions drives the bag of water against the point of least resistance, the center of the lower segment of the uterus represented by the internal os. Hydrostatic pressure from above, aided by the antagonistic action of the uterosacral and uterovesical ligaments, exerted antero-posteriorly, constitute the dilating mechanical forces.

Physiologic changes of great importance are the progressive thinning of the lower segment and the softening and dilatability of the tissues produced by engorgement of the pelvic blood-vesssels and the transudation of serum between the muscular fibers of the lower segment of the uterus and cervix. As resistance to the dilating forces is diminished the internal os opens wider; the cervix is effaced; the external os is dilated, and finally the canalization of the cervix is completed. Dilatation begins by obliteration of the canal from above downward. A funnel-shaped depression beginning at the site of the internal os increases in diameter and depth until the cervix has disappeared and the uterine cavity is separated from the vagina only by the external os.

ARTIFICIAL METHODS OF CERVICAL DILATATION

No method of artificial dilatation can be instituted that will meet the conditions mentioned in the natural method. Formerly manual dilatation was the only resource of the obstetrician and the result could not be accomplished by this method gradually, gently and without danger to the integrity of the soft parts. The very first requirement *viz.,* that of quick dilatation in the treatment of eclampsia is contrary to the laws of Nature; but these must be sacrificed. Dilatation by the manual method cannot be accomplished quickly in these cases, as its advocates admit that from forty minutes to an hour or longer is necessary to accomplish the purpose.

The Bossi dilator was introduced because the force obtained by the hand was insufficient. By the aid of this powerful instrumental dilator time is saved and the canal is quickly opened. Not only is the integrity of the soft parts endangered by the forcible manual or instrumental dilatation of unprepared tissue, but the life of the eclamptic patient is further jeopardized. The unfavorable results of *accouchement forcé* in the treatment of eclampsia are largely due to the aggravation of the disease by the reflex influence of forcible stretching of the cervix.

We must admit that every effort to effect quick dilatation and the termination of pregnancy opposes the laws of Nature. But disease is opposition to those laws and we must fight eclampsia by illegitimate means. These means are, first, the termination of pregnancy which is furnishing the source of the toxemia; second, the rapid dilatation of the cervical canal; third, the rapid extraction of the infant. The prompt termination of the first stage of labor is the principal difficulty to be overcome, and we have seen that manual and instrumental dilatation are objectionable.

How then can we quickly dilate an intact, unprepared cervix without subjecting the patient to the injurious influences of forced mechanical stretching? Manual and instrumental dilatation will not accomplish that result. Vaginal Cesarean section fulfils the indications better than any other method. The unprepared tissues are cut and the wound opened without danger to the integrity of the soft parts. The cervical canal is dilated without forcible stretching and the eclamptic patient is saved from injurious reflex disturbances. A clean-cut surgical wound is left to be repaired instead of bruised and torn tissues.

THE VALUE OF VAGINAL CESAREAN SECTION

The objections to the operation are based on faulty technic and may be overcome. Sepsis, injury to the bladder, opening the peritoneal cavity anteriorly or posteriorly, extension of the incision by tearing, and hemorrhage cannot be placed to the discredit of the operation, but to that of the operator. The danger of infection is no greater in this operation than in any other performed on the birth canal of the pregnant woman, and no greater than that encountered in forcible manual and instrumental dilatation.

Injury to the bladder can be avoided by careful separation of the organ from the cervix. The connective tissue binding the bladder to the cervix is softened and loosely attached during the latter months of pregnancy except in the median line. The closer attachment in the median line is the uterovesical ligament. By cutting this central attachment and carefully working beneath the tissue and close to the cervix, danger of injury to the viscus is obviated.

Opening the peritoneal cavity in front or behind can result only from the careless extension of the incision beyond the needs of the case. Extension of the incision by tearing is due to one of two causes: either the incision is not carried up through the internal os and the wound opened sufficiently before delivery by forceps or version, or the extraction of a large infant at or about full term with only the anterior incision of the cervix, which alone is sufficient in premature cases.

Very little hemorrhage follows the separation of the bladder and still less from the incisions of the cervical tissue. Post-partum hemorrhage is prevented or controlled by the hot sterile douche and gauze tamponade of the uterine cavity. I have experienced one complication of the operation not heretofore mentioned. I performed vaginal Cesarean section on a primipara at the thirty-fourth week of gestation. Active treatment for pre-eclamptic toxemia had been instituted for eight days when the patient was seized with a convulsion. She was immediately removed to the operating-room and vaginal Cesarean section was performed, the anterior incision of the cervix only being required. The infant was born alive and lived three months. The mother remained in coma for ten hours and afterward was making a satisfactory convalescence when, on the seventh day, she had a most severe secondary hemorrhage. A large quantity of coagulated blood was removed from between the bladder and cervix and the cavity irrigated with hot sterile salt solution and packed with gauze. No fever followed and healing of the surfaces was complete. Objections to vaginal Cesarean section on the ground that rupture of the uterus may occur in subsequent labor conjure up an imaginary danger that has never been realized yet.

WHO SHOULD OPERATE?

By whom should vaginal Cesarean section be performed? I am led to take cognizance of this question because advice has been given that the general practitioner should be familiarized with the technic of the operation and be taught to perform it when necessary. It goes without saying that no one should attempt the operation without being familiar with the technic, and yet in this day of brilliant surgery the temptation is so great that "fools rush in where angels fear to tread." It needs little or no encouragement to transport the twentieth century physician from his graduating exercises to the operating-room. Men who practice general medicine and use the pen more than the knife are only too prone to undertake all manner of surgical work. I have been informed of four or five instances—and two of them came under my personal knowledge—of men who had attempted the operation and abandoned it because they were not familiar with the procedure. I recognize the fact that throughout the length and breadth of this great land of ours there are many self-reliant men, often indeed pioneers in surgical work, who are practicing the profession in sparsely settled country districts. Necessity makes them surgeons as well as physicians and against such men undertaking vaginal Cesarean section I raise no dissenting voice provided they have surgical skill and know how to do the operation. The difficulties of the operation are not great to any one who is familiar with the anatomy and surgery of the pelvic organs, but it should not be performed by the general practitioner unless he is experienced in surgery, otherwise more lives will be saved and less invalidism result by adhering to the older methods of treating eclampsia.

1909 Q Street, Northwest.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DAVIS AND FOULKROD, CRAGIN AND HULL, FRY, PETERSON AND DE LEE, CONSTITUTING A SYMPOSIUM ON ECLAMPSIA

Dr. Henry Schwarz, St. Louis: The report on the changes caused in the liver of dogs by chloroform narcosis is of great interest and will make us hesitate to use chloroform in cases of eclampsia, for fear of lowering the resisting power of our patient. We all agree that we should try to prevent eclampsia rather than to cure it. I am sure that in the case of women who place themselves under medical supervision early in pregnancy, the frequency of eclampsia has been much reduced. A great many women in city and country are delivered by midwives; much would be gained if the medical profession could educate the public so that these women would learn the necessity of placing themselves under medical supervision during pregnancy, even if they continue to be delivered by midwives. Great good would be accomplished if the urine were examined once a month during the first half, and twice a month during the second half of pregnancy. All organs of elimination, the skin, the kidneys and the bowels, should be kept in perfect working order; pregnant women should learn to live on mixed diet. Plenty of vegetables, plenty of fruit, plenty of cereals, little meat and plenty of pure water will do a great deal to prevent eclampsia.

Dr. Ernst G. Zinke, Cincinnati: The pathology of eclampsia has been well presented; but the problem still remains unsolved. It is also a serious question which mode of treatment has contributed most to the reduction of the maternal—and fetal—mortality of this frightful obstetric complication. In my own opinion prophylaxis is of the greatest importance; and intelligent medical treatment, when convulsions supervene, has contributed more to the reduction of the maternal—and fetal—mortality than all the surgical interventions designed for emptying the uterus. In this view I am well supported by authors and practitioners at home and abroad. He who has had years of experience in the practice of obstetrics, will readily admit that many patients with puerperal convulsions have recovered when left alone. In some instances spontaneous delivery has occurred, even with the child living. These cases are not at all isolated. I can portray to you a picture which I observed in one of the European hospitals nineteen years ago. The impression it made on me has never been obliterated from my mind. This particular patient was left to herself in bed, with only a nurse at her side who saw to it that the patient did not hurt herself as she went from one convulsion into another. The attacks exceeded 100 within three days; and yet, she delivered herself spontaneously and recovered. When I witnessed this performance I thought to myself, that the man who would pursue this mode of treatment of puerperal eclampsia in this country would run the risk of being tarred and feathered. And still it teaches a lesson not to be regarded lightly. Some of you, no doubt, have seen cases of puerperal eclampsia, occurring in the seventh or eighth month, from which the patient recovered, after several seizures, under medical treatment, the pregnancy remaining undisturbed until term, and terminating spontaneously and favorably for both mother and child. This is the other side of the picture, and I merely present it to call attention to the fact, that surgical intervention, though necessary at times, is not the prime factor in the treatment of puerperal eclampsia, and that, if there is a reduction in the mortality of this disease between the present and the past, surgery has contributed little or nothing to it.

DR. J. H. CARSTENS, Detroit: We all admit that we know nothing about convulsions either in children or in adults; that one patient will have one convulsion and die, another will have a hundred and recover, and that another will die after ten or fifteen. We know that with one convulsion the patient may become paralyzed, or may lose one of her senses. We must know that the sooner we stop the convulsion the less liable is the patient to be injured. Now, the fact that my friend from Cincinnati has seen an isolated case in which they left the poor woman for three days and she recovered does not relieve us from the guilt of bad practice when we fold our hands and roll our eyes to heaven and say, "The Lord's will be done." What in the name of heaven are we here for? What is to cure the toxemia? The quickest way is to deliver the woman. Ninety-five per cent. will not have any convulsions after delivery, and those few cases that do occur after delivery simply point to the rule that the convulsion is stopped when the woman is delivered. The quickest method of delivery is the best. If we decide that the method which Dr. Peterson has so beautifully described is the proper one, it is up to everybody to learn that. Every one of us who has had much experience will only be too delighted to show the general practitioner the technic of the operation. We all cut into the bladder once in a while even now with all our experience, and if the poor general practitioner will save that woman's life I will forgive him, if he does the same, for a live woman is better than one that is buried six feet under the ground.

DR. F. J. PLONDKE, St. Paul: It is true that after delivery in the majority of cases the convulsions cease. There are, however, a certain number of cases in which they continue, and in still others they do not develop until after delivery has taken place. We have heard to-day that, while we do not know the exact nature of the toxins causing puerperal eclampsia, we do know that they are found in, and are distributed by, the blood-current, and that sooner or later they cause irritation of the liver and kidney cells. Taking this for granted the indication for treatment, whether the convulsions develop before or after delivery, are the same; viz., to eliminate as much of the poison as possible, and neutralize, by dilution or otherwise, what remains. I have met these indications in a number of cases during the past two years by opening a vein and inserting a glass cannula in the distal end, through which blood is allowed to flow away; through the same opening, but into the proximal end, another cannula is inserted through which physiologic salt solution is carried into the vein. The amount of blood withdrawn, ranging from 15 to 30 ounces, depending on indications (usually about 10 ounces), was allowed to flow away before the introduction of salt solution was begun; from 1 to 2 quarts of salt solution was used in each case.

I have used this treatment in ten cases; seven puerperal and three of convulsions in chronic nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear.

I realize that these are only a few cases from which to draw a conclusion, but the results have convinced me that the treatment merits further trial.

DR. T. M. BURNS, Denver: I wish to make a few remarks on the lack of danger in the use of Cesarean section for eclampsia. During the last five months I assisted at one operation and performed the operation nine times. Only two of the operations were for eclampsia, but in both of these we had excellent results. The operation of Cesarean section *per se* is without any shock whatever. The immediate results are perfect. We get a living child and the mother is just as good after the operation as before. The patient gets up in better condition than from any other abdominal operation. Even in the infected cases hysterectomy is unnecessary. Skilled assistants are essential, especially in giving the anesthetic and taking care of the baby.

DR. M. I. ROSENTHAL, Fort Wayne: From the standpoint of the gynecologist this operation presents another advantage which I believe will bear emphasis. Lacerations of the cervix frequently do not amount to anything, are easily repaired and are not of serious significance. A deep laceration laterally in the cervix extending up into the vault of the vagina, making a tear into the broad ligament, is a very serious thing, however. You have formed a fibrous tissue in the broad ligament, and chronic invalidism is produced which you are not able to reach by plastic operation. Such a tear in the broad ligament produces a very serious condition. This operation fixes the trauma in the cervix at a point where it is rather an immaterial affair, so that if it does not heal it can be repaired or left as it is.

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THE VALUE OF VAGINAL CESAREAN SECTION

The objections to the operation are based on faulty technic and may be overcome. Sepsis, injury to the bladder, opening the peritoneal cavity anteriorly or posteriorly, extension of the incision by tearing, and hemorrhage cannot be placed to the discredit of the operation, but to that of the operator. The danger of infection is no greater in this operation than in any other performed on the birth canal of the pregnant woman, and no greater than that encountered in forcible manual and instrumental dilatation.

Injury to the bladder can be avoided by careful separation of the organ from the cervix. The connective tissue binding the bladder to the cervix is softened and loosely attached during the latter months of pregnancy except in the median line. The closer attachment in the median line is the uterovesical ligament. By cutting this central attachment and carefully working beneath the tissue and close to the cervix, danger of injury to the viscus is obviated.

Opening the peritoneal cavity in front or behind can result only from the careless extension of the incision beyond the needs of the case. Extension of the incision by tearing is due to one of two causes: either the incision is not carried up through the internal os and the wound opened sufficiently before delivery by forceps or version, or the extraction of a large infant at or about full term with only the anterior incision of the cervix, which alone is sufficient in premature cases.

Very little hemorrhage follows the separation of the bladder and still less from the incisions of the cervical tissue. Post-partum hemorrhage is prevented or controlled by the hot sterile douche and gauze tamponade of the uterine cavity. I have experienced one complication of the operation not heretofore mentioned. I performed vaginal Cesarean section on a primipara at the thirty-fourth week of gestation. Active treatment for pre-eclamptic toxemia had been instituted for eight days when the patient was seized with a convulsion. She was immediately removed to the operating-room and vaginal Cesarean section was performed, the anterior incision of the cervix only being required. The infant was born alive and lived three months. The mother remained in coma for ten hours and afterward was making a satisfactory convalescence when, on the seventh day, she had a most severe secondary hemorrhage. A large quantity of coagulated blood was removed from between the bladder and cervix and the cavity irrigated with hot sterile salt solution and packed with gauze. No fever followed and healing of the surfaces was complete. Objections to vaginal Cesarean section on the ground that rupture of the uterus may occur in subsequent labor conjure up an imaginary danger that has never been realized yet.

WHO SHOULD OPERATE?

By whom should vaginal Cesarean section be performed? I am led to take cognizance of this question because advice has been given that the general practitioner should be familiarized with the technic of the operation and be taught to perform it when necessary. It goes without saying that no one should attempt the operation without being familiar with the technic, and yet in this day of brilliant surgery the temptation is so great that "fools rush in where angels fear to tread." It needs little or no encouragement to transport the twentieth century physician from his graduating exercises to the operating-room. Men who practice general medicine and use the pen more than the knife are only too prone to undertake all manner of surgical work. I have been informed of four or five instances—and two of them came under my personal knowledge—of men who had attempted the operation and abandoned it because they were not familiar with the procedure. I recognize the fact that throughout the length and breadth of this great land of ours there are many self-reliant men, often indeed pioneers in surgical work, who are practicing the profession in sparsely settled country districts. Necessity makes them surgeons as well as physicians and against such men undertaking vaginal Cesarean section I raise no dissenting voice provided they have surgical skill and know how to do the operation. The difficulties of the operation are not great to any one who is familiar with the anatomy and surgery of the pelvic organs, but it should not be performed by the general practitioner unless he is experienced in surgery, otherwise more lives will be saved and less invalidism result by adhering to the older methods of treating eclampsia.

1909 Q Street, Northwest.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DAVIS AND FOULKROD, CRAGIN AND HULL, FRY, PETERSON AND DE LEE, CONSTITUTING A SYMPOSIUM ON ECLAMPSIA

DR. HENRY SCHWARZ, St. Louis: The report on the changes caused in the liver of dogs by chloroform narcosis is of great interest and will make us hesitate to use chloroform in cases of eclampsia, for fear of lowering the resisting power of our patient. We all agree that we should try to prevent eclampsia rather than to cure it. I am sure that in the case of women who place themselves under medical supervision early in pregnancy, the frequency of eclampsia has been much reduced. A great many women in city and country are delivered by midwives; much would be gained if the medical profession could educate the public so that these women would learn the necessity of placing themselves under medical supervision during pregnancy, even if they continue to be delivered by midwives. Great good would be accomplished if the urine were examined once a month during the first half, and twice a month during the second half of pregnancy. All organs of elimination, the skin, the kidneys and the bowels, should be kept in perfect working order; pregnant women should learn to live on mixed diet. Plenty of vegetables, plenty of fruit, plenty of cereals, little meat and plenty of pure water will do a great deal to prevent eclampsia.

DR. ERNST G. ZINKE, Cincinnati: The pathology of eclampsia has been well presented; but the problem still remains unsolved. It is also a serious question which mode of treatment has contributed most to the reduction of the maternal—and fetal—mortality of this frightful obstetric complication. In my own opinion prophylaxis is of the greatest importance; and intelligent medical treatment, when convulsions supervene, has contributed more to the reduction of the maternal—and fetal—mortality than all the surgical interventions designed for emptying the uterus. In this view I am well supported by authors and practitioners at home and abroad. He who has had years of experience in the practice of obstetrics, will readily admit that many patients with puerperal convulsions have recovered when left alone. In some instances spontaneous delivery has occurred, even with the child living. These cases are not at all isolated. I can portray to you a picture which I observed in one of the European hospitals nineteen years ago. The impression it made on me has never been obliterated from my mind. This particular patient was left to herself in bed, with only a nurse at her side who saw to it that the patient did not hurt herself as she went from one convulsion into another. The attacks exceeded 100 within three days; and yet, she delivered herself spontaneously and recovered. When I witnessed this performance I thought to myself, that the man who would pursue this mode of treatment of puerperal eclampsia in this country would run the risk of being tarred and feathered. And still it teaches a lesson not to be regarded lightly. Some of you, no doubt, have seen cases of puerperal eclampsia, occurring in the seventh or eighth month, from which the patient recovered, after several seizures, under medical treatment, the pregnancy remaining undisturbed until term, and terminating spontaneously and favorably for both mother and child. This is the other side of the picture, and I merely present it to call attention to the fact, that surgical intervention, though necessary at times, is not the prime factor in the treatment of puerperal eclampsia, and that, if there is a reduction in the mortality of this disease between the present and the past, surgery has contributed little or nothing to it.

DR. J. H. CARSTENS, Detroit: We all admit that we know nothing about convulsions either in children or in adults; that one patient will have one convulsion and die, another will have a hundred and recover, and that another will die after ten or fifteen. We know that with one convulsion the patient may become paralyzed, or may lose one of her senses. We must know that the sooner we stop the convulsion the less liable is the patient to be injured. Now, the fact that my friend from Cincinnati has seen an isolated case in which they left the poor woman for three days and she recovered does not relieve us from the guilt of bad practice when we fold our hands and roll our eyes to heaven and say, "The Lord's will be done." What in the name of heaven are we here for? What is to cure the toxemia? The quickest way is to deliver the woman. Ninety-five per cent. will not have any convulsions after delivery, and those few cases that do occur after delivery simply point to the rule that the convulsion is stopped when the woman is delivered. The quickest method of delivery is the best. If we decide that the method which Dr. Peterson has so beautifully described is the proper one, it is up to everybody to learn that. Every one of us who has had much experience will only be too delighted to show the general practitioner the technic of the operation. We all cut into the bladder once in a while even now with all our experience, and if the poor general practitioner will save that woman's life I will forgive him, if he does the same, for a live woman is better than one that is buried six feet under the ground.

DR. F. J. PLONDKE, St. Paul: It is true that after delivery in the majority of cases the convulsions cease. There are, however, a certain number of cases in which they continue, and in still others they do not develop until after delivery has taken place. We have heard to-day that, while we do not know the exact nature of the toxins causing puerperal eclampsia, we do know that they are found in, and are distributed by, the blood-current, and that sooner or later they cause irritation of the liver and kidney cells. Taking this for granted the indication for treatment, whether the convulsions develop before or after delivery, are the same; viz., to eliminate as much of the poison as possible, and neutralize, by dilution or otherwise, what remains. I have met these indications in a number of cases during the past two years by opening a vein and inserting a glass cannula in the distal end, through which blood is allowed to flow away; through the same opening, but into the proximal end, another cannula is inserted through which physiologic salt solution is carried into the vein. The amount of blood withdrawn, ranging from 15 to 30 ounces, depending on indications (usually about 10 ounces), was allowed to flow away before the introduction of salt solution was begun; from 1 to 2 quarts of salt solution was used in each case.

I have used this treatment in ten cases; seven puerperal and three of convulsions in chronic nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear.

I realize that these are only a few cases from which to draw a conclusion, but the results have convinced me that the treatment merits further trial.

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Dr. E. T. Hull, New York: Bleeding used to be done at the Sloane as a routine. Since then better results have been obtained by the use of veratrum viride and nitroglycerin as outlined, repeating the dosage if necessary to get the desired result. It is well recognized that once the blood-pressure is down and once the pulse is slow, convulsions will no longer occur. If we were not able to bring about this condition by medication, then bleeding might be done, but that is very rarely necessary. In the third stage, bleeding may be allowed from the uterus with the idea of getting rid of toxins. As far as introducing salt solution is concerned I think that has to be done cautiously. With an overwatery condition of the blood one of the dangers is increased, that of edema of the lungs.

Dr. H. D. Fry, Washington, D. C.: When these cases have reached the point of eclampsia they have gone too far to talk about preventive treatment. In regard to the let-alone plan of treatment the statistics have shown that surgery does a great deal of good in these desperate cases; that the mortality has been reduced by immediately emptying the uterus by surgical means and not using the expectant treatment. The mortality under the expectant treatment is between 30 and 40 per cent., and by immediate delivery, between 3 and 7 per cent. I was much surprised last month to hear Dr. Hirst read a paper advocating medical means in preference to emptying the uterus. He is the only obstetrician whom I have known to recently bring out such a view.

This sleight-of-hand technic described by Dr. Peterson, in which now you see the bladder and now you don't, is very alluring. It is easy with a piece of gauze to push the bladder out of the way, but you cannot ignore the uterovesical ligament. Dr. Bandler in his paper this morning brought out an important point in this connection showing how to avoid injury to the bladder. An important step when taking off the forceps is to pass a heavy ligature to hold the bladder back, and to act as a guide in bringing the cervix down.

I always drain, putting in gauze. In regard to chloroform, I saw a case some time ago which emphasized the dangers of using this anesthetic. The woman was delivered with forceps in the right occipitoposterior position, chloroform being the anesthetic. The lacerations were afterward repaired and the patient got along beautifully until the third day. She had had no symptoms of toxemia and the urine was perfectly clear. In thirty-six hours she was dead. The urine had been examined repeatedly without finding albumin or casts or the slightest trace of trouble with the kidneys. It was a plain case of liver poisoning from the use of chloroform and that case taught me a valuable lesson.

In a case of eclampsia with the woman undelivered the best way to bring down the blood-pressure is to empty the uterus. The blood-pressure may be brought down by bleeding, by giving veratrum viride or by rupturing the membranes; but the quickest way is to empty the uterus.

Double Pregnancy in a Uterus Didelphys.—An instance of a double pregnancy in a uterus didelphys is reported by M. Rochard (*Progrès méd.*, Nov. 5, 1910): The woman was admitted to the hospital with symptoms of an imminent abortion. On examination the vulva, vagina and colon were found to be normal, but the uterus was much enlarged, especially laterally. In Douglas' pouch was found a soft painful mass which was thought to be a swollen tube. An urgent laparotomy showed a uterus didelphys with a six weeks' pregnancy in each corpus. Each uterus communicated with a single opening and had a single ovary. On account of the probability of serious accidents in such cases if left to go to term it was deemed prudent to do a hysterectomy, which was followed by rapid recovery.

THE PREVENTION OF INFANT MORTALITY *

GOTTFRIED KOEHLER, M.D.
Assistant Commissioner of Health
and C. St. Clair DRAKE, M.D.
Assistant Chief, Bureau of Vital Statistics, Department of Health
CHICAGO

The importance of preventing sickness and death in infancy has been generally recognized during the last decade by many European countries. In our country this problem has been growing, and when carefully analyzed is found to be really of greater magnitude than the problem of preventing tuberculosis, when considered from the standpoint of deaths involved. The organization of the American Association for the Study and Prevention of Infant Mortality, in November, 1909, has resulted in a more general recognition of conditions in this country, and has been followed by efforts to deal with the existing conditions, together with their causes.

Sanitarians hold that the infant mortality rate is a test of real sanitary accomplishment. Sir John Simon pointed out that a high infant mortality rate indicates the existence of evil conditions in the homes of the people. George Newman, in the preface of his recent treatise on this subject, concludes that the loss of infant life is in some way intimately related to the social life of the people.

The young of all animals are more susceptible than the adult to the influences of unfavorable circumstances in the environment. With advancement in civilization, the infant death-rate should become less. Man has succeeded in guarding judiciously against the death of the young in his domestic animals, but has not succeeded equally well with his own race. Comprehensive statistics are not available on the death-rate of young cows and horses, but we feel safe in making the assertion that the rate is lower than the infant mortality rate. In the registration area of the United States nearly one-fifth of all deaths is of infants under one year, and one-fourth of the total mortality is contributed by deaths of children under 5 years of age.

In Chicago the total deaths during 1909 were 31,300; of this number 9,368 were in children under 5 years, and 6,357 in children under 1 year of age. Thus the deaths in children under 5 years constituted approximately one-third of all deaths.

STUDY OF INFANT MORTALITY STATISTICS

That the cause must be known before a remedy can be applied is a well-established rule in medical practice. Sociologic problems have to be dealt with in the same manner. Thus before suggesting preventive measures, it behooves us to make a survey of the existing conditions and study them in relation to prevailing etiologic influences.

The general death-rate from all causes in this country and nearly all other civilized countries has been steadily declining, while the infant mortality rate has remained stationary, or at least has shown no material reduction.

For purposes of comparison Table 1 from Newman, contrasting the birth-rate, death-rate and infant mortality rate of the principal European countries during the last and previous decade, is useful.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-First Annual Meeting, held at St. Louis, June, 1910.

Table 2 shows the infant mortality in Chicago, compared with other American and European cities.

The studies of Newman on the distribution of infant mortality show that the rate is higher in cities than in rural communities. The diagram (Fig. 1) from Devine contrasts the infant mortality rates in the city and country.

TABLE 1.—BIRTH-RATE, DEATH-RATE AND INFANT MORTALITY RATE OF PRINCIPAL EUROPEAN COUNTRIES

	Birth Rate		Death Rate		Inf. Mort. Rate		
	1883-92	1893-02	1883-02	1893-02	1883-92	1893-02	03
England and Wales....	31.9	29.3	18.9	17.6	144	152	132
Scotland	31.8	29.9	19.2	18.0	120	127	...
Denmark	31.6	29.9	18.7	16.5	135	133	...
Russia	48.4	48.8	34.6	32.9	270	272	...
Germany	36.6	36.9	24.7	21.5	...	195	...
Prussia	37.2	36.5	24.2	21.2	207	199	194
Austria	37.7	37.2	29.1	25.9	...	227	...
Hungary	45.5	39.9	32.3	26.3	...	224	212
Netherlands	33.7	32.3	20.9	18.5	176	152	135
Belgium	29.8	28.9	20.7	18.3	161	157	155
France	23.4	22.0	22.2	20.8	167	158	...
Spain	36.0	34.7	31.9	28.7	...	190	...
Switzerland	27.8	28.2	20.3	18.5	160	145	133
Italy	37.5	34.2	26.9	23.3	209	173	...

TABLE 2.—PROPORTION OF INFANTS WHO DIE BEFORE REACHING THE AGE OF ONE YEAR. DATA FOR CERTAIN LARGE CITIES FOR THE DECADE 1898-1907

Cities	Births	Deaths Infant	Per cent.
Buenos Aires	335,654	33,305	9.9
Paris	539,372	61,084	11.3
Chicago	457,604*	55,564	12.2
Amsterdam	149,922	18,483	12.3
Rome	119,674	15,786	13.2
London	1,195,668	187,593	14.5
New York (M. & B.)...	610,360	98,661	16.1
Brussels	41,751	6,954	16.7
Hamburg	204,467	35,499	17.4
Vienna	509,918	92,964	18.2
Warsaw	247,135	45,243	18.3
Venice	39,725	7,307	18.2
Berlin	496,702	100,033	20.1
St. Petersburg........	382,270	98,317	25.7
Moscow	380,727	131,605	34.6

*Estimated for intercensal years.

TABLE 3.—CAUSES OF DEATH AMONG CHILDREN UNDER ONE YEAR OF AGE FOR THE FIVE-YEAR PERIOD, 1904-1908

	Total	Per cent. of total under one year
Diarrheal disease group............	12,176	39.8
Diarrheal diseases*............	9,709	31.7
Convulsions	2,019	6.6
Gastritis	448	1.5
Congenital defects and accidents....	7,362	24.0
Premature birth	2,474	8.1
Congenital debility	2,307	7.5
Injuries at birth..............	409	1.3
Other congenital defects	2,172	7.1
Impure-air disease group	6,298	20.6
Pneumonia	4,308	14.1
Bronchitis	1,896	6.2
Influenza	94	0.3
Four chief acute contagious diseases	993	3.2
Whooping-cough	541	1.8
Measles	195	0.6
Diphtheria	161	0.5
Scarlet fever	96	0.3
Meningitis (simple)	722	2.4
Tuberculosis (total)	486	1.6
Meningeal	195	0.6
Pulmonary	183	0.6
Other	108	0.4
Venereal disease	386	1.3
Syphilis	368	1.2
Gonorrhea	18	0.1
Violence (total)		
Sunstroke and heat prostration...	27	0.09
Suffocations (overlying, etc.)....	75	0.25
Other accidents	84	0.27
Homicide	107	0.35
Diseases of urinary system.........	...	0.6
Nephritis (acute)	146	0.5
Other urinary diseases	47	0.1
Rickets	146	0.5
Tetanus and trismus nascentium....	100	0.3
Total deaths under one year of age	30,598	

* Diarrheal diseases include cholera infantum, summer complaint, dysentery, diarrhea, gastro-enteritis, enteritis, etc.

An analysis of infant mortality in Chicago, as to the causes, distribution and relation to environmental conditions, is given in Table 3.

An analysis of the age distribution of children who die before completing the first year of life shows that approximately 7 per cent. die in less than twenty-four hours after birth, at an average age of 4 hours, 41 minutes; 14 per cent. in from one to seven days, at an average age of 2 days, 17 hours; 53 per cent. in from seven days to six months, at an average age of 2 months and 10 days; and 26 per cent. when between 6 months and one year of age, at an average age of 8 months and 15 days. The average age of those dying before reaching the age of one year was 3 months and 19 days.

Out of an approximate total of 152,500 born in Chicago in the three years 1907-1909, 1,447, or 9.5 per thousand, died in less than twenty-four hours after birth; 4,354, or 28.5 per thousand, died in less than seven days; 14,479, or 96.8 per thousand, died in less than six months; 20,012, or 131 per thousand, died before completing the first year of life. Chicago's record is much the same as other large American cities.

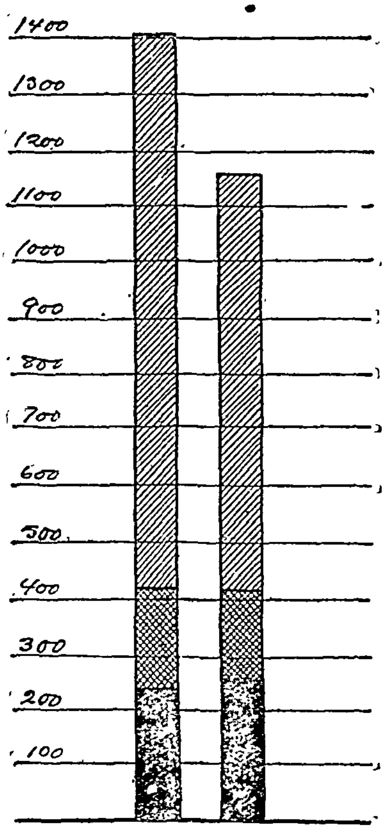


Fig. 1.—Infant mortality rates per 10,000 births in 1902.
Under 1 year, London, 1,403.0; rural counties, 1,158.8
Under 1 month, " 417.5; " 414.6
Under 1 week, " 240.5; " 258.8

The effects of population congestion, nationality, sanitary conditions and other environmental influences affecting infant life, are portrayed in a striking manner by the spot maps and diagrams of the Chicago Health Department which are herewith presented.

On the outline ward map of Chicago (Fig. 3) are shown the location of 1,570 infant deaths by means of spots. These spots are thickest in the areas of greatest density of population, and out of all reasonable proportion to the number of inhabitants or to the number of births occurring in these areas. They are thickest where the Lithuanians, Poles, Bohemians and Italian people are present in large numbers. They are thickest where the sanitary conditions are bad, where poverty and ignorance are most prevalent, where factories, in which many of the mothers or expectant mothers are employed, crowd close on the homes.

A study of the infant mortality statistics with relation to the nationality of mothers shows some startling conditions: Children of Lithuanian, Polish, Hungarian, Bohemian, Italian and Austrian mothers die in far greater ratio than do the children of mothers of other nationalities. The difference is shown in Figure 4.

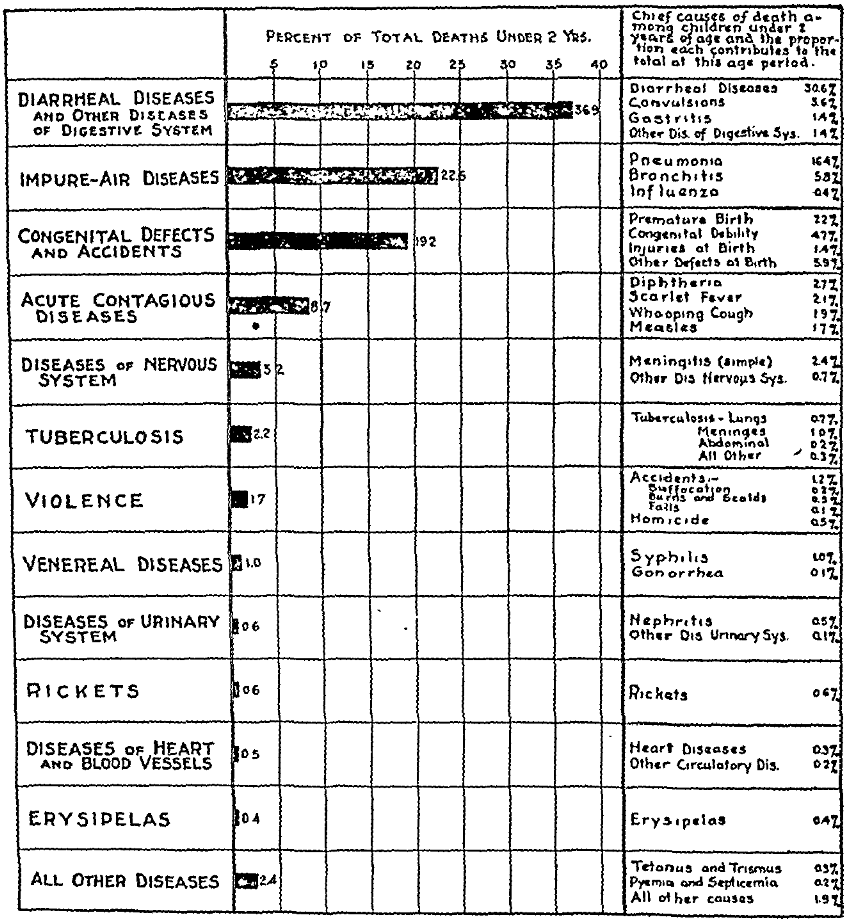


Fig. 2.—What kills the babies? This diagram shows the chief causes of death among children under 2 years of age and the ratio of each cause to the total deaths in this age division. In each 100 deaths among children under 2 years of age thirty-seven are caused by diseases of the digestive system, twenty-three by the impure-air diseases, nineteen by defects and accidents at birth, nine by acute contagious diseases, three by diseases of the nervous system, two by tuberculosis, two by violence, one by venereal diseases, etc.; 70 per cent. of such deaths can be avoided—with proper care.

PREVENTIVE MEASURES

In Chicago, as in most other large American cities, the death-rate among children during the last two decades has been below that of the preceding years, but, unfortunately, the rate of the last decade has not shown a decrease which is proportionate to that of the ten-year period preceding.

An analysis of the statistics of contagious diseases against which preventive measures have been applied with increasing vigor during the last ten years, is shown in condensed form in Figure 5.

We have progressed more in our fights against smallpox, malaria, diphtheria and typhoid than we have against the chief cause of infant mortality—the diarrheal diseases.

If we may count deaths from premature birth and injuries at birth as preventable—and surely a very large percentage of them are—there would be marked increases to show on the debit side of this sanitary ledger.

MILK AS A FACTOR

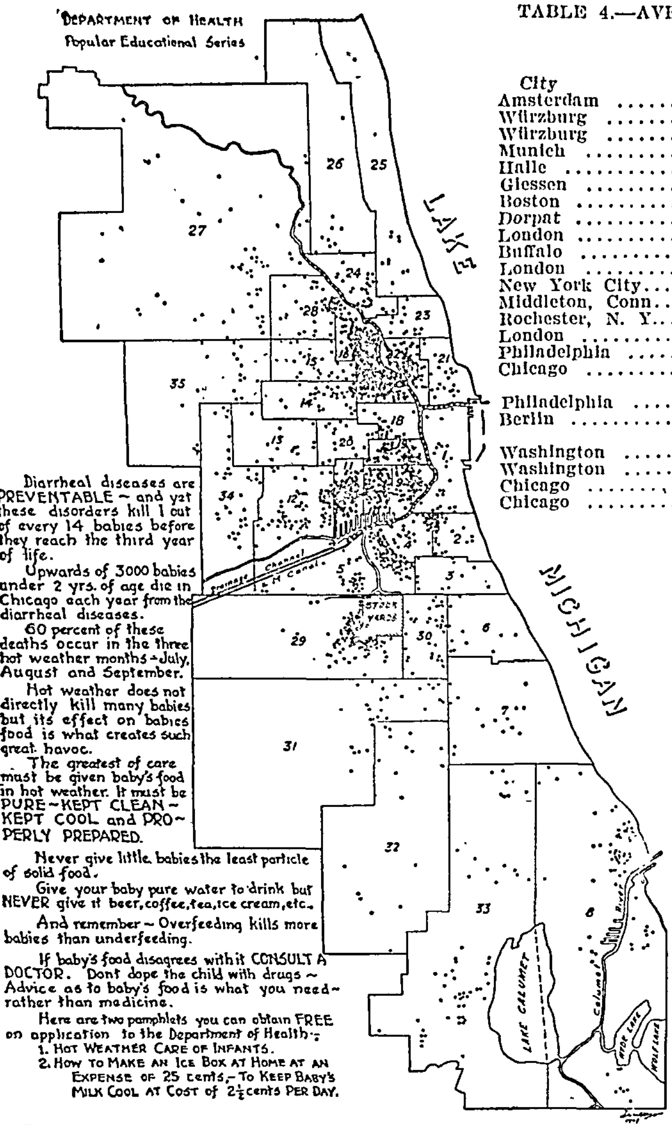
The general improvement of the market milk-supply, which began fifteen or twenty years ago, was followed by some slight lowering of the diarrheal disease deaths, not by any decided decrease. But the general improvement in market milk does not give us a milk-supply suitable for young infants, this being proved by the average bacterial count of all large cities, taken from the Hygienic Laboratory Bulletin, No. 56, and given in Table 4.

That a further reduction in the bacterial content will result in a lowering of infant mortality can be seen from (1) the statistics of infant mortality in New York before and after the establishment of the Straus milk stations; (2) from the mortality at the infant asylum at Randall's Island before and after the use of pasteurized milk; (3) the lowering of infant mortality in Chicago after the pasteurization of 60 per cent. of the market milk, and (4) comparison of infant mortality statistics in cities with good and ordinary milk-supply.

Infant Mortality in New York City.—Pasteurized milk was first made available for infants in general in New York City in 1893, in which year Nathan Straus dispensed 34,400 bottles of milk so prepared from one depot. In 1894, 339,494 bottles were issued, in 1895, 666,622, and in 1896, 666,941. In 1905, 2,668,397 bottles were dispensed and 1,016,731 glasses of pasteurized milk were bought at the booths in the parks of New York City. In 1906, seventeen Straus stations dispensed 3,142,252 bottles of pasteurized milk and 1,078,405 glasses.

Prior to the beginning of this work the death-rate of children under 5 years in New York City was over 96.2 out of every thousand, and in June, July and August the death-rate of children was at the rate of 136.4 per thousand per annum. With the increased use of pasteurized milk the death-rate fell to 55 per thousand in 1906, and the summer death-rate to 62.7 per thousand.

The Mortality at the Infant Asylum at Randall's Island.—When the infants in the care of the City of New York were fed on milk from a carefully selected herd pastured on the island, the death-rate was as shown in the first part of Table 5. A pasteurizing plant



Diarrheal diseases are PREVENTABLE ~ and yet these disorders kill 1 out of every 14 babies before they reach the third year of life.

Upwards of 3000 babies under 2 yrs. of age die in Chicago each year from the diarrheal diseases.

60 percent of these deaths occur in the three hot weather months ~ July, August and September.

Hot weather does not directly kill many babies but its effect on babies food is what creates such great havoc.

The greatest of care must be given baby's food in hot weather. It must be PURE ~ KEPT CLEAN ~ KEPT COOL and PROPERLY PREPARED.

Never give little babies the least particle of solid food.

Give your baby pure water to drink but NEVER give it beer, coffee, tea, ice cream, etc.

And remember ~ Overfeeding kills more babies than underfeeding.

If baby's food disagrees with it CONSULT A DOCTOR. Dont dope the child with drugs ~ Advice as to baby's food is what you need ~ rather than medicine.

Here are two pamphlets you can obtain FREE on application to the Department of Health:

1. HOT WEATHER CARE OF INFANTS.
2. HOW TO MAKE AN ICE BOX AT HOME AT AN EXPENSE OF 25 cents, ~ TO KEEP BABY'S MILK COOL AT COST of 2½ cents PER DAY.

Fig. 3.—Outline ward map of Chicago, showing location of infants' deaths from diarrheal diseases during the summer of 1909; 1,570 deaths in July, August and September.

TABLE 5.—DEATH-RATE AT THE INFANT ASYLUM, RANDALL'S ISLAND

	Children treated	No. of Deaths	Percentage
BEFORE THE USE OF PASTEURIZED MILK			
1895	1,216	511	42.02
1896	1,212	474	39.11
1897	1,181	524	44.36
Total	3,609	1,509	41.81
AFTER THE USE OF PASTEURIZED MILK			
1898	1,284	255	19.80
1899	1,097	269	24.52
1900	1,084	300	27.68
1901	1,028	186	18.09
1902	820	181	22.07
1903	542	101	18.63
1904	345	57	16.52
Total	6,200	1,349	21.75

was installed in the early part of 1898. No other change in diet or hygiene was made.

Is it not significant that the only marked reduction in deaths in Chicago during the year 1909, as compared with the preceding year, was among the babies, the milk feeders? At all other ages, excepting 10 to 20 years, there were increases, as will be seen by Table 7.

TABLE 4.—AVERAGE BACTERIAL COUNT OF MARKET MILK IN VARIOUS LARGE CITIES

City	Investigated by	Samples	Date	Count
Amsterdam	Von Geuns	..	1885	10,545
Würzburg	Clauss	8	1889	1,000,000 to 2,000,000
Würzburg	Hohenkamp	..	1889	1,900,000 to 7,200,000
Munich	Cnof	..	1889	200,000 to 6,000,000
Halle	Renk	..	1891	6,000,000 to 30,700,000
Giessen	Uhl	30	1892	83,000 to 169,600,000
Boston	Sedgwick & Batchelder	50	1892	708,000 to 4,200,000
Dorpat	Knochenstiern	..	1893	10,200,000 to 30,000,000
London	Rowland	25	1895	500,000
Buffalo	Frye	15	1896	25,000 to 43,600,000
London	Pakes	..	1900	3,000,000 to 4,000,000
New York City	Parke	..	1901	300,000 to 5,000,000
Middleton, Conn.	Burrage	..	1901	11,000 to 300,000
Rochester, N. Y.	Goler	86	1903	837,000 to 5,000,000
London	Dodd	..	1904	4,800,000
Philadelphia	Byrnes	..	1904	1,600 to 21,000,000
Chicago	Jordan	..	1904	16 per cent. samples contained over 20,000,000
Philadelphia	Bergey	..	1904	Average 4,800,000
Berlin	Proskauer, Seligmann, Croner	..	1907	Average 3,500,000
Washington	Hygienic Laboratory	..	1906	Average 22,134,000
Washington	Hygienic Laboratory	..	1907	Average 11,270,000
Chicago	Tonney (Raw Milk)	639	1909	Average 3,239,000
Chicago	Tonney (Past. Milk)	..	1909	Average 752,975

TABLE 6.—THE LOWERING OF INFANT MORTALITY IN CHICAGO AFTER PASTEURIZATION OF SIXTY PER CENT. OF THE MARKET MILK-SUPPLY IN 1909 *

Year	Deaths	Rates per 100,000
1899	5,917	363
1900	5,726	337
1901	5,407	308
1902	5,514	303
1903	5,699	304
1904	5,387	279
1905	6,251	314
1906	6,554	319
1907	6,720	319
1908	6,908	319
Average 10 years	6,008	316
1909	6,389	287

* Prior to 1907 all deaths of children who lived less than one day were excluded from the mortality count. Since 1907 such deaths have been included and they constitute 7.2 per cent. of the total mortality under one year of age. Therefore, to make this statement comparable, 7.2 per cent. has been added to the tabulations of the years 1899 to 1906, inclusive.

TABLE 7.—AGES AT WHICH LIVES WERE SAVED DURING THE YEAR 1909

Years	Deaths 1909	Deaths 1908	Saving	Loss
Under 1	6,387	6,908	521	...
1 to 5	2,981	2,768	...	213
5 to 10	768	759	...	9
10 to 20	1,179	1,199	20	...
20 to 30	2,676	2,573	...	103
30 to 40	3,261	3,085	...	178
40 to 50	3,768	3,553	...	215
50 to 60	3,501	3,334	...	167
60 to 70	3,195	2,965	...	230
70 to 80	2,367	2,240	...	127
Over 80	1,158	1,150	...	8

TABLE 8.—COMPARISON OF INFANT MORTALITY STATISTICS IN CITIES WITH GOOD AND ORDINARY MARKET MILK-SUPPLY

	1908	1909
GOOD MILK-SUPPLY (Pasteurized)		
Copenhagen	150	109
Buenos Aires	86	88
Paris	103	96
ORDINARY MILK-SUPPLY		
London	113	108
New York	128	130
Berlin	168	158
Vienna	183	172
Chicago	135	125

There are other significant factors besides the milk-supply to be taken into consideration:

In American cities the change in the immigrant population during the last two decades is an important factor. The change is illustrated by Table 9.

Thirty years ago the immigrant or foreign population of cities consisted of Germans, Scandinavians, English or Irish. Now the Slavs and those from southern European countries are in excess. They come from the European countries which have the highest infant

TABLE 9.—RECENT CHANGES IN THE RACE OF IMMIGRANTS; COMPARISON OF CERTAIN NATIONAL GROUPS *

	Per cent. of immigrants from Austria-Hungary, Italy and Russia in total immigration.†	Per cent. of immigrants from United Kingdom, France, Germany and Scotland in total immigration.
1869	0.9	73.8
1880	8.5	64.5
1890	34.0	57.7
1891	39.6	52.1
1892	44.8	53.9
1893	42.7	48.2
1894	42.6	47.9
1895	39.8	52.9
1896	52.9	38.5
1897	53.0	37.6
1898	57.9	33.3
1899	64.4	27.8
1900	66.7	25.3
1901	68.6	22.5
1902	70.6	20.3
1903	66.8	22.4
1904	63.4	25.0
1905	66.4	24.2
1906	68.5	18.3
1907	71.3	17.1

* Prepared by Immigration Restriction League from Quarterly *Report of Bureau of Statistics*, No. 2, Series 1892-1893, and Reports of Commissioner-General of Immigration.

† Includes Poland to 1898.

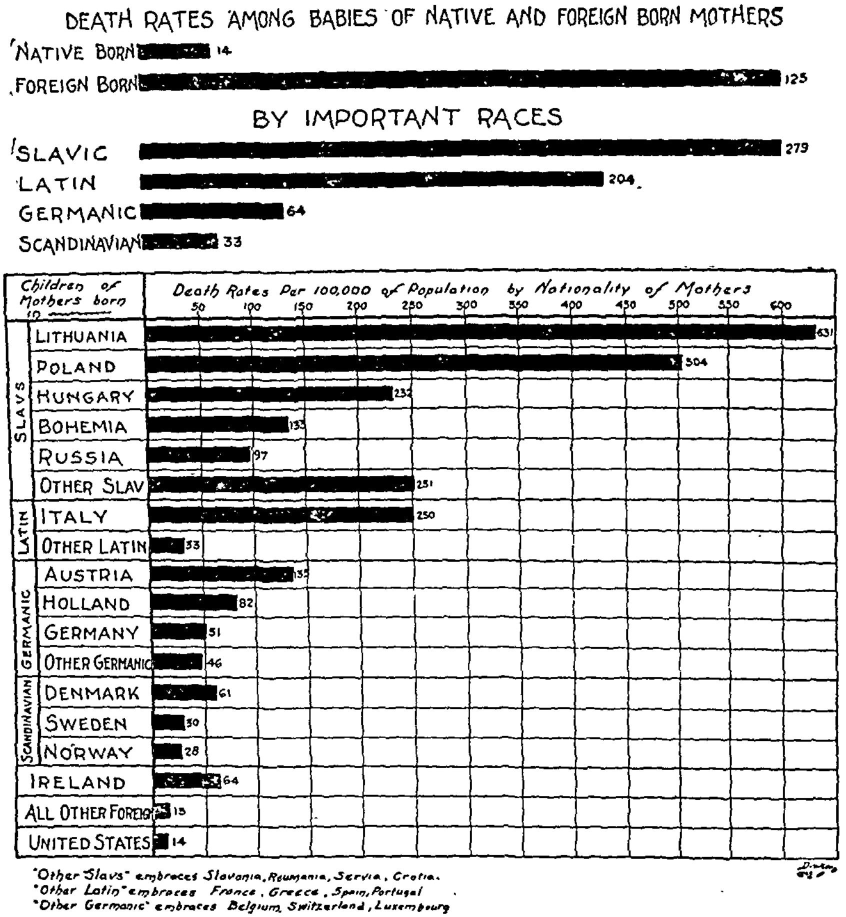


Fig. 4.—Chart of infant death-rates from diarrheal diseases in hot weather in Chicago, arranged by nationality of mothers.

mortality rates, and with the change in environment and industrial states of both sexes, conditions result which favor high infant mortality.

That the changed industrial conditions are an important factor has been shown by Devine in his studies of the mortality rates in two manufacturing cities in Massachusetts, compared with the rates observed in other American cities.

The statistics of families studied for Dr. Hamilton by Theresa McMahon, Ph.D., (Table 10) show the percentage of children dying in families of working women.

TABLE 10.—RELATION OF NUMBER OF WORKING WOMEN TO CHILDREN'S DEATHS IN 600 FAMILIES IN CHICAGO

	Women worked after marriage	Women worked before marriage	Women worked before and after marriage
Number of women	114	307	88
Number of children who died	200	504	150
Per cent. of children who died prematurely and at birth	39	33	36
Per cent. of children who died under 3 years	56	61	60
Per cent. of children who died over 3 years	4	5	4

As an example of the opposite condition may be cited the death-rate during the siege of Paris, in 1870-71, where, with the cessation of industrial activities in the city, the *infant mortality* fell 40 *per cent.*, while the general *mortality* rate is said to have doubled.

In 1880, according to the Census Bureau, 25.8 per cent. of the entire population lived in the cities. Since that time the urban population has been increasing rapidly. In 1890 it constituted 32.9 per cent. of the total population; in 1900, 37.3 per cent., and now it is estimated that fully 41 per cent. of the inhabitants of the United States live in the cities of more than 4,000 population. This same tendency prevailed in the later days of the Roman Empire and was an important element contributing to its decline and fall.

The effects of such migration always have manifested themselves by *a high infant mortality*. Newman, after a study of infant mortality in Great Britain, concludes that the distribution of infant mortality follows mainly in the wake of urbanization—that is, high density of population—combined with industrial and social conditions.

Of the many other factors influencing infant mortality, which may bear on the results of preventive measures, excessive child-bearing may be briefly considered. Alice Hamilton reported at the New Haven meeting on investigations made in Chicago, and concludes that excessive child-bearing makes for excessive child mortality. Table 11, taken from her report, shows that the increase in size of the families is paralleled by the increase in the proportion of children lost.

Table 12, compiled from her report, shows the relation of nationality, child-bearing and infant mortality rate.

The high birth-rate and death-rate here shown among the Slavs and Italians is closely related to the deaths occurring from accidents at birth, and from prematurity. Tallent states that midwives attend 47 per cent. of all cases in Chicago, and 86 per cent. among the

Italian population. Accurate data on this question cannot be obtained from birth certificates, because complete returns are not made; but from a study of the 485 names of midwives practicing in Chicago, it is found that 35 per cent. are Slavic and 6 per cent. are Italian. The prevailing custom is that they practice, each among her own nationality.

TABLE 11.—INFANT DEATHS PER THOUSAND BIRTHS

Families of 4 children and less	118
Families of 6 children and more	267
Families of 7 children and more	280
Families of 8 children and more	291
Families of 9 children and more	303

TABLE 12.—INFANT DEATHS PER THOUSAND IN RELATION TO NATIONALITY AND CHILD-BEARING

	Group 1, 8 children and more.	Group 2, 4 children and less.	Av. No. children per family.	Av. No. deaths per family.
Jews	260	81	5.7	1.1
Mixed	271	98	5.1	1.0
Irish	291	113	6.6	1.7
German	288	186	5.7	1.3
Slavs	328	122	6.5	1.7
Italians	301	125	6.6	1.9

PREVENTIVE MEASURES SUGGESTED

The measures which we suggest and briefly summarize, are made with a view of remedying the existing direct and indirect causes of sickness and death in children, as shown by the study presented.

1. *Causes Operating Directly on the Mother.*—The causative conditions that need correction are neglected education, new environment, urbanization, female employment, improper care during pregnancy, and later neglected breast-feeding, overwork, bad health, alcoholism and poverty.

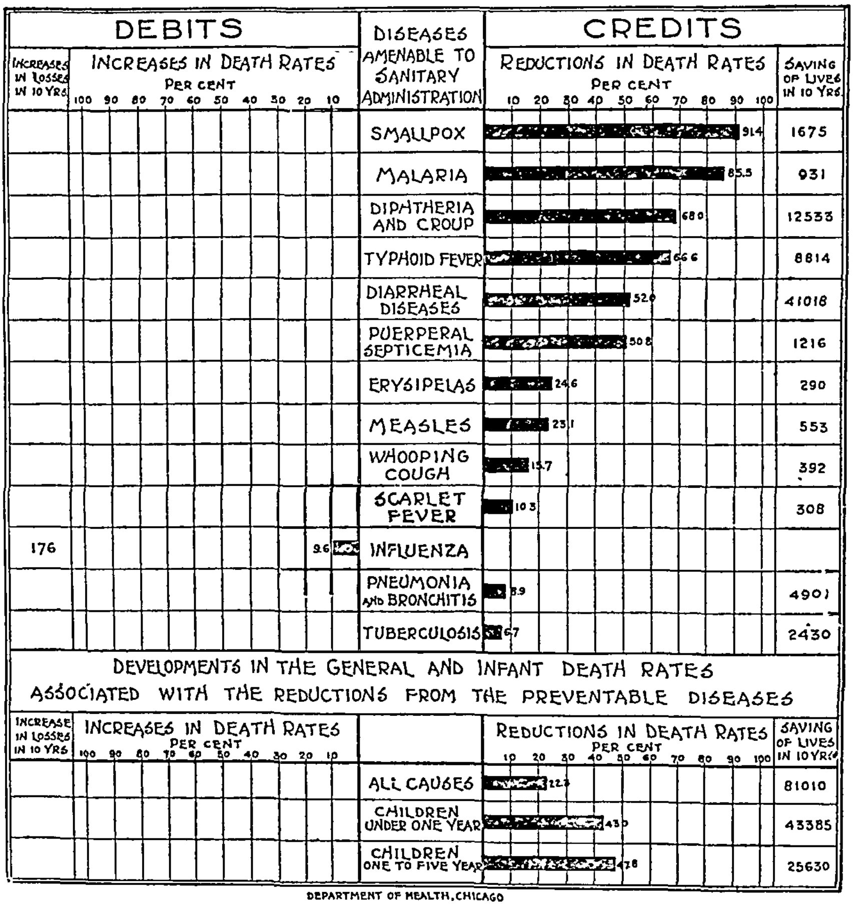
It is not easy to suggest a remedy for all of these. Some of these influences can and will be eliminated by proper enactment and enforcement of laws. The personal factor can be treated only by educational measures. Such measures promulgated in the public schools will have their effect in time. The present generation is much more difficult to reach. The procedure now followed in European countries is yielding results. For a detailed summary of these methods and work, embodied in the Infant Welfare Movement, I refer to Abt's article.[1]

Starting in 1892, with Budin's consultation for nurslings whose mothers were delivered in his clinic, the movement has progressed and with the recent building of the Augusta Victoria House at Charlottenburg, near Berlin, the work in Germany has assumed a national aspect.

The English method, as practiced by the Westminster Health Society of visiting mothers, is extremely practical. Voluntary lady visitors who have received some training call on the mothers in their localities, often before the baby is born, and after birth make calls as frequently as it seems necessary.

The calling on cases of reported sickness sometimes practiced in American cities does not strike at the root of the evil, yet it is better than inactivity. The baby-tent idea, used effectively in Chicago, has served in manifold ways to aid mothers in the care of sick and well children.

2. *Causes Operating Directly and Indirectly on the Child.*—Causative and contributory existing conditions that require correction are: incomplete birth registration, improper care, no reports of morbidity.



DEPARTMENT OF HEALTH, CHICAGO
EDUCATIONAL SERIES-No 23.

Fig. 5.—Sanitary trial balance: The City of Chicago in account with the preventable diseases; losses and gains during the last ten years as compared with the preceding decade.

It is impossible to apply a remedy if it is not known where the trouble exists. If the well or sick children are to be visited and taken care of, their location has to be determined. Births should be reported within twenty-four hours. Following this, advice should be given the mother in regard to the proper care and feeding of the child. Breast-feeding should be encouraged. Budin's experience has shown how much more generally it can be carried out when efforts are made to do so.

Leaflets, mailed to the mother on receipt of the birth report, are useful; but the best results are obtained by personal supervision. The obstetrician or midwife makes the initial call in practically all births, and in the absence of other agencies is in duty bound not only to attend to the birth and puerperium, but also to see that the child is properly started in life. Midwives with their practice limited by law to obstetrics are in need of enlightenment with regard to their duties to humanity. When this is properly presented to them and it is shown of what great service judicious advice given by them to the mother will mean for the welfare of the child, they may be made influential agencies in the prevention of infant mortality. In Chicago a correspondence school for midwives is conducted by the Health Department with gratifying results.

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[1] Abt, Isaac A.: A Survey of the International Movement Concerning Infant Welfare, Illinois Med. Jour., April, 1910, p. 428.

Hedger, reporting on the work done in Chicago during the summer of 1909, says that 17,437 families were called on, and 2,876 sick children were found; 2,057 had diarrhea and 800 had other affections. Infantile diarrhea should be made a reportable disease.

3. *Indirect Causes to be Remedied by Action on the Part of the Authorities.*—The baneful influences of bad sanitation, improper housing, congestion in cities, filthy environment, flies, bad water and an unclean milk-supply are factors in the cause of disease and death of children, as well as of adults, that require correction wherever they exist.

Since the diseases due to impure milk and bad air make up the first and third largest groups of causes of death in infancy, it behooves us to eliminate these influences to the fullest extent. High-grade, clean milk may be had in most cities, but the price is prohibitive, as far as the poor are concerned. Infants' milk depots have been established and are distributing milk specially adapted, in regard to purity and chemical composition, to infants' feeding. Unfortunately, babies are too frequently supplied with milk from those sources only after sickness or nutritional disturbances have developed, and even then such milk stations are not within the reach of all. Milk-dealers who can make deliveries throughout the entire city should come to the aid of the philanthropic organizations which are now carrying on this work.

In addition, the general market milk-supply should be improved so that those who must rely on this source in the feeding of infants and children may not be unnecessarily exposed to infection. All milk not produced in accordance with strict sanitary requirements should be properly pasteurized under municipal control.

Pure water should be supplied for children in the hot season. This is mentioned to emphasize the findings of Hedger and others, namely, that many children are given food and food only when they are crying because of thirst.

Air, the first requirement of the child at birth, should be pure. The curative powers of pure air in pulmonary diseases, marasmus, rickets, summer diarrhea, and its *soothing effect on the crying and restless child*, have been recognized more and more of late, and necessarily we must draw the conclusion that if pure air is beneficial for the sick it must be equally good for the well.

215 Madison Street.—2758 Washington Boulevard.

CACTUS GRANDIFLORUS

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AND

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The testimony concerning the therapeutic value of *Cactus grandiflorus* is conflicting and, indeed, absolutely contradictory, since many observers have stated that they found it to be a most useful cardiac remedy, whereas others have pronounced it absolutely inert.

Positive testimony is preferable to negative when other conditions are equal, and when reputable men declare that they have found a drug of value in a given condition, the burden of proof concerning its worthlessness then devolves on its opponents.

There can be no doubt that much of the misunderstanding which exists in regard to this drug has arisen through the substitution of other substances for *Cactus grandiflorus.* As an example of this we may cite the experience of Gordon Sharp,[1] who, as the result of clinical observations extending through several years, came to the conclusion that *Cactus grandiflorus* possessed no therapeutic properties whatsoever. Sharp worked with specimens of cactus obtained from a number of the better-known drug houses of Great Britain, but unfortunately, when he submitted a specimen of his *"Cactus grandiflorus"* to the botanist, E. M. Holmes, the latter found it to be *Opuntia decumana.*

Naturally this deprived Sharp's work of its value, so far as the question concerns *Cactus grandiflorus* and Sharp thereupon secured specimens of the true *Cactus grandiflorus* with which he conducted a new series of experiments, coming to the same conclusions[2] that he had reached previously, *i. e.*, that the drug was inert.

Under the circumstances we considered it necessary to exercise especial care to secure absolutely authentic specimens of *Cactus grandiflorus*, and application was made to some of the larger manufacturers of pharmaceuticals and dealers in ground drugs, but they were unable to supply us with authentic specimens.

Dr. J. N. Rose, associate curator of the Division of Plants of the United States National Museum, kindly supplied us with a specimen of the true *Cactus grandiflorus;* but it has been asserted that the Mexican variety alone possesses therapeutic value: hence we desired authentic specimens direct from Mexico. On the suggestion of Dr. Rose we applied to Dr. C. A. Purpus, a botanist at Zacuapan, Huatusco, in the state of Vera Cruz, Mexico, who gathered a sufficient supply of the fresh herb and forwarded it to us.

We have used tinctures made from these two specimens, fluidextracts made by the more prominent manufacturers of pharmaceuticals, as well as the Specific Medicine Cactus, made by Lloyd Brothers, and extracts prepared from these tinctures and fluidextracts. The specimen sent us by Dr. Purpus agrees with the description given by Holmes, and Dr. Purpus is a botanist whose standing cannot be questioned.

EXPERIMENTS

It was our plan originally[3] to supplement our pharmacologic examination of cactus with systematic clinical observations, but we felt constrained to modify our plans for reasons that will become apparent. The tinctures, fluidextracts and extracts were administered to cats, dogs and frogs by the stomach; the tinctures and fluidextracts were administered intravenously to cats and dogs. In some cases small amounts were used, in others the dose was limited only by the tolerance of the animal toward the alcohol contained in the preparation.

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[1] Practitioner, 1894, lii, 161.

[2] Pharm. Jour., Series 4, v, 539.

[3] The experiments in which the cactus was administered orally were performed two years ago; the results were so unsatisfactory that the work was discontinued, but our recent work on the standardization of the digitalis bodies by means of the intravenous injection into cats led us to believe that we could determine the cardiac action of cactus with greater precision than had been done hitherto.

The tinctures were prepared by macerating the crushed fresh cactus herb in four times its weight of 95 per cent. alcohol, after the manner by which Dr. Rubini[4] is said to have prepared his tinctures. The fresh herb contains a large amount of mucilage, and when a weakly alcoholic menstruum is used a thick viscid preparation is obtained of about the consistency and appearance of white of egg, except for a greenish color. This is of such viscidity that when a tall cylindrical graduate filled with the fluid is inclined so that a little runs out the entire mass is drawn up over the lip of the graduate, as the pendent end of a rope might draw an entire coil over a pulley. The tinctures prepared with strong alcohol have a handsome green color due to the presence of chlorophyll, but they contain only about 0.5 per cent. of solid extract.

There is a want of agreement among manufacturers of the fluidextract concerning the proper menstruum for exhausting *Cactus grandiflorus*, the percentage of alcohol in these preparations varying from 43 per cent. to 90 per cent. This results in great differences in the appearance and solid contents, and it also indicates that some manufacturers must use the dried herb, since the moisture present in the fresh would reduce the alcoholic content much below that given on the labels in some cases.

We determined the amounts of solid extracts in the tincture and fluidextracts which we used by heating 10 c.c. of each preparation in a porcelain crucible to 80 C. for 24 hours and weighing the residue. Some of these residues are quite dry; others are of the consistency of extracts. The alcoholic and solid contents are given in Table 1.

TABLE 1.—CONTENTS OF FLUIDEXTRACTS

Name of manufacturer.	Alcohol.	Solid extract.
	%	%
Eli Lilly & Co..........	55	4.0
Lloyd Bros. (specific med.).	81	4.0
Mulford & Co...........	80	0.9
Parke, Davis & Co.......	65-75	1.6
Sharpe & Dohme*.......	85	0.7
E. R. Squibb & Sons.....	43	1.8
Frederick Stearns	90	1.0
Wm. R. Warner & Co....	60	1.6
John Wyeth & Bro......	75	2.4
Tincture (our own)....	80	0.58

* Only 2 c.c. were available for the determination of the solid extract. Since our own tinctures represent about 20 per cent. of the drug, they should contain but one-fifth as much extract as a fluidextract.

The extracts, not those mentioned in Table 1, which were used in our experiments on animals, were prepared by evaporating the tinctures and the fluidextracts, exposed in open dishes on a warm table placed over a radiator, to the consistency of a soft extract and adding sugar of milk. The extracts so prepared represented from one to fifty times their weight of cactus; the amounts used in the experiments are expressed in terms of the crude drug which they represent.

ADMINISTRATION OF CACTUS BY THE STOMACH

Two cats, A and B, received doses of the fluidextract of cactus so adjusted that the alcoholic content was the same in each case. A received 4.7 c.c. of Sharpe & Dohme's fluidextract, and B received 9.4 c.c. of Squibb's, each containing 4 c.c. of absolute alcohol per kg. of weight, through a stomach tube. C was used for a control and received 4 c.c. of absolute alcohol per kg., the three doses being so diluted with water that each contained the same percentage of alcohol.

There was no perceptible difference in the effects of the three doses. All three of the cats sank into a state of profound narcosis, so that they remained motionless in whatever position they were placed. The heart-rate of the cat which received the larger dose of cactus was slowed by 12 beats per minute; that of the one which received the alcohol alone was slowed by 20 beats; that of the one which received the smaller dose of cactus was increased by 9 beats per minute.

In order to test the effects of the continued administration of cactus, 1 c.c. of fluidextract of cactus per kg. of weight was given daily for one week through a stomach-tube to each of three cats. The heart-rate was determined before the drug was used, just after, and twenty-four hours after, the last dose. The results are given in Table 2.

TABLE 2.—HEART-RATE BEFORE AND AFTER CONTINUED ADMINISTRATION OF CACTUS *

Cat.	Manufacturer.	Heart-rate. I	II	III
D	Eli Lilly & Co........	165	192	150
E	Sharpe & Dohme......	198	...	168
F	Lloyd Bros. (spec. med.).	183	216	186

* I, before; II, just after; III, twenty-four hours after last dose.

The results of these experiments being unsatisfactory and inconclusive, larger doses were administered in the form of the extracts to seven cats for periods of three days. The results are given in Table 3.

TABLE 3.—HEART-RATE BEFORE AND AFTER LONGER CONTINUED ADMINISTRATION *

Cat.	Manufacturer.	Dose gm. per kg.	Heart-rate. I	II
G	Sharpe & Dohme.........	17.5	170	162-183
H	Lloyd Bros..............	17.5	126	126
I	Parke, Davis & Co.......	8.0	183	182-198
J	Eli Lilly & Co..........	8.0	150	162
K	John Wyeth & Bro.......	16.0	150	150
L	Our own tincture........	15.0	180	192
M	Our own tincture.......	14.0	222	237

* I, before; II, after.

Tincture of strophanthus was used as a control in a number of cases. The results with this drug were not wholly satisfactory, but distinct slowing was usually induced by the subcutaneous injection of about one-fourth of the fatal dose, or by the oral administration of large, but not fatal, doses.

In order to test the effect of cactus on the dog after the oral administration, a single large dose was given as follows: Fluidextract of E. R. Squibb & Sons (250 c.c.) was warmed in order to evaporate most of the alcohol, and the residue, which was quite thick and mucilaginous, was diluted with water to measure 350 c.c. This was administered in one dose through a stomach tube to a dog weighing 4.4 kilograms. Emesis occurred in about thirty minutes—a result which cannot be considered extraordinary in view of the fact that the amount given was equal to nearly one-twelfth the weight of the animal.

Four days later the same dog received 150 c.c. of the fluidextract of cactus of Parke, Davis & Co. in the same way, after the alcohol had been removed by evaporation. No perceptible effect followed the administration of this stupendous dose, equal to one thousand times the average therapeutic dose for a man, which is given on the label of the specimen used as 0.12 to 0.3 c.c. This dog received about 15,000 times as much per kilo of weight as a man of 70 kilos would when taking the therapeutic dose just mentioned.

The extracts of cactus were administered to frogs by the mouth in doses corresponding to 100 grams of the drug per kilo of weight, without causing perceptible effects. Such amounts correspond to doses of 7 kilos for a man of 70 kilos in weight, or a great many thousands of times as large as the doses usually recommended.

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[4] Abstr. in Med. Rec., iii, 299.

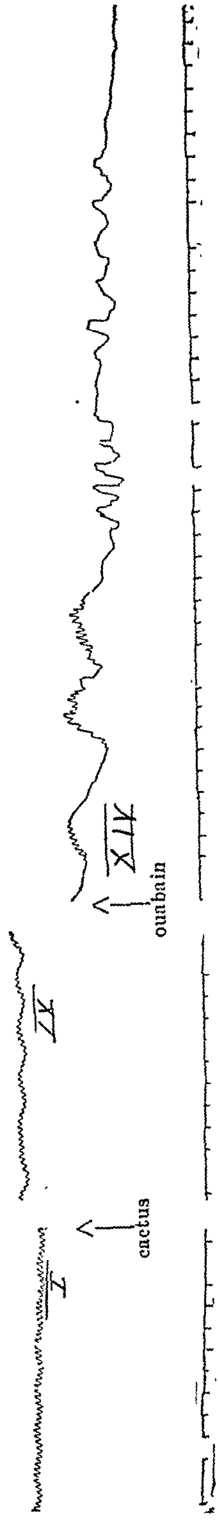

Fig. 1.—Experiment 1, subject, male cat; weight, 3.26 kg.

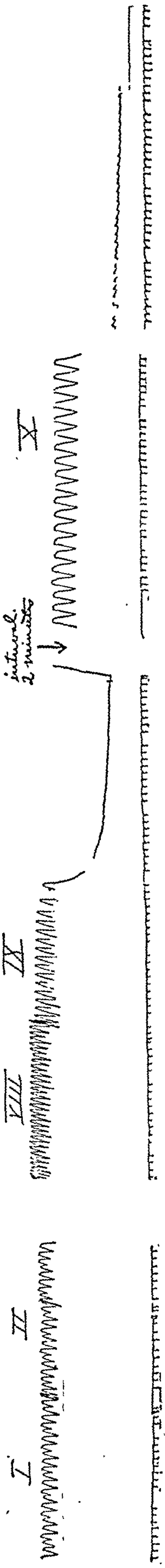

Fig. 2.—Experiment 2, subject, male dog; weight, 5.4 kg.

INTRAVENOUS ADMINISTRATION

The results of the oral administration of cactus showed that no effect could be expected from its use in that way, but as the rate of absorption of all of the digitalis bodies from the alimentary canal is variable, or at times entirely wanting, we next tried the effects of various amounts by intravenous injection. In some cases small doses were used, in others the amount was limited only by the animal's tolerance for the alcohol contained in the preparations used.

The protocols and parts of the tracings of two experiments are given to show the absence of any action resembling that of digitalis, and for convenience of comparison we give a tracing showing the final stage of the typical digitalis action on the same animal. The tracings cannot be reproduced in full, as each is about a meter in length, but they show nothing characteristic of the action of digitalis, aconite, strychnin or in fact of any drug.

The tracing in Experiment 1 (Fig. 1) shows a slight but steady rise in blood-pressure, with a corresponding slowing of the heart-rate which might be mistaken for a digitalis action; but this results from a gradual recovery following the ether and the operation, together with the action of normal saline with which the cactus was diluted. That the action is not at all characteristic of digitalis will be evident when one observes that the excursions are no greater, there is no increase in the vagus stimulation with increased doses, and the great irregularity so characteristic of the toxic stage of digitalis action is not obtainable with cactus (cf. ouabain tracing).

PROTOCOL OF EXPERIMENT 1

July 30, 1910. Male cat, weight, 3.26 kg.

10:40 a. m.	Ether; cannulas into femoral vein and carotid artery.
10:54 a. m.	Tracing I, normal.
10:56 a. m.	Tincture cactus, 0.1 c.c. per kg. diluted with 9 parts of normal salt solution.
10:58 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:00 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:02 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:04 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:06 a. m.	Tincture cactus, 0.5 c.c. per kg. (total 1 c.c. per kg.).
11:18 a. m.	Tracing IX.
11:19 a. m.	Ouabain 1-100,000 injected continuously.
11:30 a. m.	Clot forming in cannula.
11:51 a. m.	Just fatal dose of ouabain injected.
11:55 a. m.	Great irregularity, slowing (Tracing XIV).
11:56 a. m.	Animal died. (Total 0.122 mg. ouabain per kg.)

All injections were made into the femoral vein; the blood-pressure in the carotid is recorded, the time-marker showing seconds. Tracings with a Huerthle membrane manometer.

The tracings in Experiment 2 afford an excellent example of the entire absence of any digitalis, aconite or strychnin action, death resulting from respiratory paralysis, due to the combined effects of the ether and alcohol, more than 5 c.c. of alcohol having been injected during the experiment.

The respiration ceased some time before the heart stopped beating. The pause in the heart-beat in this case is not in any way characteristic of the action of digitalis or aconite. It is quite true that pauses in the heart-beat occur in the latter stages of digitalis action, but these are usually of but a few seconds, duration, and when the beat is resumed it is always quite irregular and rapid at some period before death. In this experiment the heart beat slowly but with perfect regularity, except for one other pause, until just before death, some seven minutes after the cessation of respiration, and even the last beats were quite regular except for a progressive weakening.

The action of aconite is also characterized by great irregularity in the toxic stage, and strychnin causes convulsions, or, at least, hyperexcitability, with sudden rise of blood-pressure. The portions of the tracing given fully represent all that was observed.

We have not seen a case in which death resulted from respiratory failure from a digitalis body alone, though this sometimes occurs when an animal is too deeply anesthetized, just as it does from an anesthetic in the absence of a digitalis action.

PROTOCOL OF EXPERIMENT 2

Aug. 4, 1910. Male dog; weight, 5.4 kg.
10:30 a. m. Morph. sulphate, 0.01 gm., subcutaneously.
11:00 a. m. Ether for light anesthesia; cannulas into the femoral vein and the carotid artery.
11:15 a. m. Ether withdrawn.
12:06 p. m. Normal (Tracing I).
12:07 p. m. Lloyd's specific medicine cactus, 0.1 c.c. per kg., diluted with four parts of normal salt solution.
12:10 p. m. Cactus, 0.2 c.c., as before (Tracing II).
12:17 p. m. Cactus, 0.3 c.c., as before.
12:34 p. m. Cactus, 1 c.c., as before.
12:40-12:58 p. m. Cactus, 2.4 c.c., as before. Clot in cannula (total, 4 c.c.).
1:05-1:18 p. m. Tincture Mex. cactus, 2 c.c. per kg., diluted with normal salt solution.
1:33 p. m. Resumed injection of tincture cactus.
1:34 p. m. Respiration begins to fail; total, 4 c.c. of specific medicine cactus and 2.75 c.c. tincture per kg. (Tracing VIII).
1:35 p. m. Cessation of respiration; total of 5.4 c.c. (Tracing 2). Alcohol per kg. (in cactus preparations).
1:36 p. m. Pause in heart-beat.
1:38 p. m. No respiratory movement (Tracing X).
1:42 p. m. Cessation of pulsations.

Despite these repeated failures to obtain evidence of any pharmacologic action with the preparations of cactus which we had employed, it seemed possible that *Cactus grandiflorus* might contain an active principle in such small amounts that its presence was masked by the alcohol in the liquid preparations, and that it might be injured or destroyed by the slight degree of heat used in the process of evaporating the alcohol from these preparations, though the probability of such being the case seemed to us very slight indeed.

We next resorted to a method which we believe to be capable of detecting even a feeble digitalis action. We have shown[5] that we could estimate the activity of various digitalis bodies by means of the combined use of ouabain and the particular digitalis body to be tested, the results being more accurate in the case of the more slowly acting digitoxin when the combined method is used than when the digitoxin is used alone.

This method may be described very briefly as follows: The fatal dose of crystalline ouabain for the cat by the vein is 0.1 mg. per kg. When less than the fatal dose of a digitalis body has been injected into the vein of a cat, less than 0.1 mg. of ouabain per kg. will be needed subsequently to cause the animal's death in a typical manner, the difference between 0.1 mg. of ouabain per kg. and that actually required being proportional to the activity of the digitalis body previously injected. This may be made clearer by the following illustration: 0.3 mg. of digitoxin per kg. injected intravenously proved fatal to a cat after four days, but 0.15 mg. of digitoxin per kg. and 0.05 mg. of ouabain per kg. (just half of the minimal fatal dose of each) injected into the vein at once caused death in a few minutes.

The accuracy of this method has been tested with a number of digitalis bodies, including digitoxin, digitalis, strophanthus and convallaria, but it is only to be expected that differences in individual susceptibility should be seen occasionally. We believe, however, that the results which we have obtained suffice to preclude serious errors.

It seems fair to conclude from what has just been said that if *Cactus grandiflorus* contains more than the merest traces of a principle having a digitalis action, the presence of such a principle can be detected by the method just described, and we certainly can detect the presence of as little as one-thousandth of 1 per cent. of ouabain when no greater quantities of an unknown solution are used than were used of the cactus.

At first we sought to use doses of cactus which were limited only by the estimated tolerance of the cats for the alcoholic content of the preparations, but we soon found that it was impossible to approximate the minimal fatal dose of alcohol for anesthetized cats, and the animals died at various stages of the experiments. Some survived until the cactus and the full fatal dose of ouabain had been administered; others succumbed when only 0.5 c.c. of the fluidextract of cactus per kilogram of weight had been injected. Such cases as the latter were so evidently due to the alcohol and ether that they had to be thrown out of the reckoning, and under the circumstances it was deemed better to throw out the entire series including those which supported the final results; hence these earlier experiments are not included in the table.

Such accidents were avoided when the dose of the fluidextract of cactus was reduced and the precaution was taken of letting the animals partially come out of the narcosis. As a further precaution the fluidextracts and tinctures were diluted with normal salt solution and injected very slowly. In the series tabulated we injected the fluidextracts and tinctures into the femoral veins of cats in doses of 1 c.c. per kilogram in eight cases, 1.5 c.c. per kilo in four, and of 5 c.c. in one case, that of the fluidextract having the lowest alcoholic content (43 per cent.) and then determined the amount of crystalline ouabain which was required to cause the death of the cat with typical symptoms.

TABLE 4.—COMPARISON OF EFFECTS OF CACTUS AND OUABAIN

Cat.	Manufacturer.	Dose of cactus in c.c. per kg.	Per cent. of fatal dose of ouabain required.	Per cent. of fatal dose due to cactus.
N	Ely Lilly & Co........	1	100	00
O	John Wyeth & Bros....	1	195*	00
P	E. R. Squibb & Sons...	1	100	00
Q	E. R. Squibb & Sons...	1	106	00
R	Sharpe & Dohme......	1	80	20
S	Sharpe & Dohme......	1	104	00
T	Parke, Davis & Co.....	1	110	00
U	Lloyd Bros. (spec.)....	1	154	00
V	Lloyd Bros. (spec.)....	1.5	103	00
W	Tincture (our own)....	1	122	00
X	Tincture (our own)....	1.5	77	23
Y	Tincture (our own)....	1.5	115	00
Z	Warner's, Mulford's and Stearn's, mixed	1.5	97	3
A1	E. R. Squibb & Sons...	5	117	00

* Cat tolerant.

There is an apparent cactus action in the case of cats R, X and Z amounting to 20, 23 and 3 per cent. of the fatal doses respectively. We say apparent, for we believe these results can be explained otherwise than on the basis of the cactus activity. In the first place, the controls in two of the more important instances give no evidence whatsoever of cactus action, and the third is wholly within the limits of error. Even granting for the sake of argument that the activity is that indicated, it is very feeble. If we represent the activity of cactus as indicated in the case of R and that of ouabain by parallel lines the lengths of which are proportional to their activities, with that representing cactus one *inch* in length, that representing ouabain would have to be more than three-fourths of a *mile* in length. If we compare the doses on the basis of this indicated activity the oral dose of this fluidextract of cactus would be about 250 c.c., or half a pint.

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[5] Hatcher and Brody: Am. Jour. Pharm., 1910, lxxxii, 360.

We believe that it would be quite justifiable to attribute these discrepancies to undetermined and unimportant causes, but we were particularly anxious to leave nothing to deduction which could be proved experimentally; hence we made a new series of experiments in which we injected 5 c.c. of fluidextract per kilogram of weight, after evaporating a portion of the alcohol in a jet of cold air, the temperature of the preparations being kept quite low. The results of these experiments are given in Table 5.

TABLE 5.—FURTHER COMPARISON OF CACTUS AND OUABAIN

Cat.	Manufacturer.	Dose of cactus in c.c. per kg.	Per cent. of fatal dose of ouabain required.	Per cent. of fatal dose due to cactus.
A1	Parke, Davis & Co.....	5	86	14
C1	Parke, Davis & Co.....	5	94	6
D1	Warner & Co..........	5	88	12
E1	Warner & Co..........	5	89	11
F1	Wyeth & Bro..........	5	101	00

The results given in Table 5 require further comment. In one case there was no apparent effect even from such a colossal dose; cat C 1 was very fat, and we have frequently stated in other papers that such animals require smaller doses than the normal. This leaves three cases to be explained, as the differences are too high to be attributed to the limits of error, and furthermore, they are all in one direction. Another effort was made to determine the nature of this feeble action.

Reference to Tables 4 and 5 shows that in a few exceptions where cactus has an apparent action the fluidextract of Warner & Co. was used in three cases out of a total of seven, and we decided to make one more effort to determine whether this preparation really possessed a true digitalis action, however feeble, or some other toxic action which lessens the amount of ouabain required. Such actions are seen occasionally with such drugs as acetanilid, but they lack the uniformity of action possessed by the true digitalis bodies. Before discussing the final experiment we will take up the results given in Table 5 in some detail.

Every one who has worked with animals in the standardization of drugs knows that the use of enormous doses introduces disturbing factors which cannot be explained readily in some instances. In the present case we desired to inject the whole of the fluidextracts intravenously, but when the menstruum was altered by evaporation the preparations became muddy in appearance, and not altogether fit for intravenous use, but the addition of sufficient alcohol to make them clear would have defeated the purpose of the evaporation; hence these were used containing variable amounts of alcohol and insoluble matter in suspension. While these could have no protective effect against digitalis actions they might easily disturb the experiments.

Even though we grant the utmost that the most biased could demand the activity of the fluidextracts is absolutely negligible, since 5 c.c. of these correspond to about one-hundredth of a milligram of ouabain, or, to put it somewhat differently, the oral dose of such fluidextracts corresponding to 5 milligrams of ouabain would be 2,500 c.c., or more than half a gallon. The improbability of there being an active principle present in *Cactus grandiflorus* is very great. If it were no more active than impure digitalin, the least active constituent of digitalis, there could not be more than one part present in 15,000 parts of cactus to account for this supposed activity, but we are not acquainted with principles present in such infinitesimal amounts, and on the other hand should the cactus contain as much as 1 per cent. of an active principle then it must be of such slight potency that the ordinary therapeutic dose would have to be about 25 grams, or one ounce.

Our final effort to detect even traces of a digitalis action was made in the following way: Fifty c.c. of Warner's fluidextract (mentioned above) was evaporated in a jet of cold air to a volume of 20 c.c. The precipitate consisted mainly of chlorophyll. The residue was filtered, the filter washed, the filtrate and washings mixed and water and salt added so that the mixture measured 42 c.c., and had the concentration of normal salt solution. The whole of this solution was injected slowly into the femoral vein of a cat weighing 1.68 kg.; the dose, corresponding to 30 c.c. of the fluidextract per kilogram of weight, caused no perceptible effect, and ouabain was then injected very slowly, and with frequent interruptions, until the animal died. This experiment was conducted with the utmost care to avoid the injection of any excess of ouabain over the minimal amount required to cause death. The result was striking and entirely failed to show a trace of digitalis (or any other) action on the part of the cactus. The cat required just 0.107 mg. ouabain per kg., or 107 per cent. of the normally fatal dose, a result wholly within the limits of error.

We are firmly convinced as the results of these experiments that there is no possible way of demonstrating that *Cactus grandiflorus* possesses any cardiac action in the slightest degree.

The fluidextracts of *Cactus grandiflorus* of different manufacturers were administered to three patients for periods of one week, and to two others for shorter periods, but there was no perceptible effect and their use was discontinued.

DISCUSSION

The literature concerning *Cactus grandiflorus*—and in this connection it is to be understood that reference is not made to the pseudo-literature of any secret or semi-secret preparation—is not very extensive, and would well repay perusal by those who use this drug clinically. A report to the Council on Pharmacy and Chemistry[6] summarizes the essential facts in the literature relating to cactus, but a careful analysis of the subject requires that certain papers shall be discussed in some detail.

Cactus grandiflorus was introduced into medical practice mainly through the recommendation of Dr. Rubini,[7] a homeopathic physician of Naples, about forty-five years ago. He used very small doses of a 25 per cent. tincture made by macerating the crushed drug in 95 per cent. alcohol. A. F. Pattee[8] recommended it for functional palpitation in doses of from one to five drops of a 25 per cent. tincture, but he gives little evidence of its value to support his recommendation. N. S. Davis[9] reported the use of cactus in two cases of palpitation with *apparent* benefit. It is to be noted particularly that Davis did not assert that cactus had any actual value; he merely used it in these two cases and said that the patients were benefited apparently. Naturally, no conclusions could be drawn from the casual observation of two cases, and he did not attempt to draw conclusions.

A number of papers appeared in the *Therapeutic Gazette* in the next few years in which cactus is extolled highly, but these papers are not wholly convincing.

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[6] The Journal A. M. A., March 12, 1910, p. 888.
[7] See abstr. Med. Rec., iii, 299; and King's American Dispensatory, ed. 18, revision 3, p. 374.
[8] Boston Med. and Surg. Jour., 1867, lxxi, 537.
[9] Philadelphia Med. Times, 1879, x, 26.

Engstad[10] cites an instance of "lingering typhoid pneumonia" with the heart becoming feeble after the second week, in which cactus stimulated the heart immediately, after digitalis and strychnin had failed. Engstad mentions the fact that most preparations are inert, but that Parke, Davis & Co. and Merck make excellent preparations.

Hills[11] states that cactus acts especially on the circular fibers of the heart and arteries, causing irritability, hyperesthesia, neuralgia, spasm and palpitation. He says that cactus resembles digitalis in respect to its power of producing heart-failure, and that this is due to the secondary effect in the case of both. He states that cactus resembles aconite in the effect on the heart much more than it does digitalis. Hills gives no evidence to sustain his statement regarding the highly selective action of cactus for the "circular fibers of the heart and arteries." It would be interesting in the light of our own experiments to know just what preparation Hills used.

Among those who report clinical studies of cactus is R. W. Wilcox,[12] who used it in 23 cases of cardiac disease. The following statement made by Wilcox is of interest in this place: "The particular preparation that I have employed, because after experimentation it is the only one that I have found to give uniform results, is the fluidextract of Parke, Davis & Co. in dose of ten to thirty minims." It would be interesting to have the protocols of the observations in which other preparations were used without satisfactory results, but this information is not given in the article.

Williams[13] reports the use of cactus in the treatment of nearly 200 cases of cardiac disease during some years, but he refers to certain physiologic experiments as explaining his results, but those experiments were not made with *Cactus grandiflorus,* and if his results accord with those experiments we must suppose that he too, like Gordon Sharp, failed to secure the true *Cactus grandiflorus,* and that Williams worked with some species of cactus having a strychnin action.

Sayre found that cactus supplied by J. U. Lloyd produced little or no effect on frogs, and he sent a specimen of the tincture to E. M. Houghton who found that very large doses produced no perceptible effect when used intravenously on dogs. They reported[14] that the drug is worthless as a substitute for digitalis.

When one attempts to explain why cactus—and under this term we include its preparations and derivatives, proprietary and non-proprietary—attained some degree of popularity in the treatment of cardiac diseases he is confronted with certain difficulties, for the explanation involves a consideration of conditions which are known to exist, but for which sufficient evidence is lacking in individual cases. In the first place it is well known, but often forgotten by enthusiasts, that patients usually tend to recover regardless of the disease or the drugs used in its treatment. Enthusiasts of all ages are too prone to attribute the benefit observed to the latest drug used; and this appears to be true especially in cardiac disease, in which rest in bed and the substitution of a proper diet will often accomplish more than any drug or combination of drugs. Hence an inert substance may attain a certain vogue.

In the second place, when a new vegetable drug is put on the market, a financial harvest awaits the pharmaceutical manufacturer who is alert to convince practitioners that his preparation of that drug is superior to other makes and that the substitution of spurious drugs is common. This may be accomplished in various ways. We are all more or less familiar with the so-called "house-organs" and with the testimonials of men whose affiliations tend to make them unduly optimistic when the preparations of certain firms are under consideration.

Having attained popularity, the continued use of cactus or its preparations calls for a somewhat different explanation. Disappointment, following the use of the digitalis bodies, undoubtedly leads many physicians to seek harmless substitutes for the better-known and more potent drug, and when one happens to see improvement follow the use of cactus after some particularly unfortunate experience with digitalis, one is apt to incline to the continued use of the more harmless or, rather, the inert drug, unless his facilities for clinical study are above the average.

There can be no gainsaying the fact that the mastery of digitalis therapy presents many difficulties; that many physicians have failed to accomplish this mastery, and that disappointment proportionate to the lack of that mastery will almost inevitably follow its use, for it is like a two-edged sword, as potent for harm as for good.

And thus we find that the reason for the use of cactus often lies in ignorance of the resources at our command, and this accentuates the need for the more careful study of the actions of the true digitalis bodies in cardiac disease, for it is certain that the physician who depends on cactus or any derivative or preparation of it, deprives himself deliberately of his medical armamentarium in the treatment of conditions which imperatively demand all the resources at his command. Pathology has added much to our exact knowledge, but we gain little thereby if we waste it through the use of inert or little known drugs.

So much for the actual conditions; the arguments with which the users of cactus attempt to justify their position require consideration. These arguments suggest the position of the bats when the birds and the beasts were at war. When evidence is furnished that cactus has no digitalis action, the fact is admitted usually, and they advance claims which are decidedly vague, and it is significant that it now finds its warmest supporters among those who recommend it in the treatment of the so-called functional disorders of the heart, or precisely those conditions which are known to require no medication or treatment of any sort beyond abstaining from the habits which induce the disturbance.[15]

While thus disclaiming that cactus has any digitalis action, the adherents do not hesitate to quote those who have used it in precisely those conditions for which digitalis is known to be useful, and who have declared it to be superior to digitalis. As examples of this we may cite the following authorities who are nearly always quoted when cactus therapy is being upheld by references to the literature.

Ellingwood[16] states that cactus is in every way superior to digitalis; that cactus exerts a direct action on the cardiac plexuses, regulating functional activity, improves the nutrition of the heart (by what means is not stated); that it increases the contractile power and energy of the heart through the cardiac ganglia and accelerator nerves, increases the musculomotor energy, and elevates arterial tension; that it increases the height and force of the pulse wave, often acts more quickly than strychnin or digitalis, and is a true sedative when the pulse is rapid and feeble and the heart weak.

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[10] Therap. Gaz., 1890, new series, vi, 606.
[11] N. Y. Homeopathic Med. Times, 1891, xviii, 295.
[12] Post-Graduate, 1891, vii, 85.
[13] Practitioner, 1891, xlvii, 266.
[14] Therap. Gaz., 3 ser., 1906, xxii, 812.

[15] After this was written one of us observed an arrhythmia due to the use of caffein. It was considered a good opportunity to try cactus, but when the heart was examined 12 hours later the arrhythmia had disappeared spontaneously before the cactus could be obtained.
[16] Med. Rec., 1905, lxvii, 837.

We are not aware how these conclusions were deduced, but they appear to be based on clinical observations alone and are unsupported by any instrumental evidence.

Wilcox[12] used cactus in mitral and aortic stenosis and regurgitation. Aulde[17] states that cactus is distinctly a cardiac tonic, free from the so-called cumulative action of digitalis. He states that cactus proved useful in dilatation with hypertrophy accompanied by a murmur. Gregory[18] endorses all that Aulde says. Herwisch[19] used cactus in cases of valvular diseases of the heart with good results when digitalis, strychnin and strophanthus did not improve the condition of the patient.

It would be well for those who use cactus while admitting that it has no digitalis action to cite other authorities than those just mentioned in support of their positions. But it would be a little unfair perhaps to judge severely many who quote the literature, as the perpetuation of certain small blunders suggests that the original literature of cactus is not consulted usually, and it seems probable that some of those who have been guilty of this inconsistency are not aware of the fact.

CONCLUSIONS

We have been unable to obtain any evidence that the true Mexican *Cactus grandiflorus* possesses any pharmacologic action whatever, but on the contrary, it appears to be a singularly inert substance when administered either by the mouth or by the vein.

When colossal doses of *Cactus grandiflorus* are given by the vein they sometimes—but not always—appear to exert an extremely feeble action on the heart; but this action is so slight that its nature could not be determined.

Even the most colossal doses of *Cactus grandiflorus* administered by the mouth to cats, dogs and frogs exert no perceptible effect.

If we are correct in maintaining that *Cactus grandiflorus* is inert it hardly requires further proof that any substance extracted from the drug must be inert also.

We wish to acknowledge our indebtedness to those who have assisted us in procuring authentic specimens of *Cactus grandiflorus* and to Mr. Maurice I. Smith for assistance in carrying out many of the experiments.

414 East Twenty-Sixth Street—122 East Thirty-Fourth Street.

Multilocular Cystic Hygroma of Neck.—In a healthy child, aged 4, who had had no children's diseases, a small, soft swelling was noticed in the angle between the left clavicle and the anterior border of the trapezius two weeks after birth. This had grown progressively in an upward and forward direction, more rapidly sometimes than at others. It had seemed to swell up at times and then decrease in size again. The last few months it had grown much more rapidly. There was no pain or dyspnea. A fortnight ago the portion beneath the lower jaw became painful and tender, with a rise of temperature to 100 F. The temperature subsided in a week, leaving this portion of the swelling hard.—Charles P. Childe, *Proc. Roy. Soc. Med.*, July, 1910.

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17. Therap. Gaz., 1891, new series, vii, 315.
18. Therap. Gaz., 1891, new series, vii, 426.
19. Philadelphia Polyclinic, 1894, iii, 444.

ARTIFICIAL STIMULATION AND INHIBITION OF THE GROWTH OF NORMAL AND SARCOMATOUS TISSUES

A FOURTH ARTICLE ON CULTIVATION OF TISSUE IN VITRO *

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We have studied by the method of cultivation of tissues *in vitro*, the properties acquired by the plasma during the development of an experimental malignant tumor. The experiments were performed on chickens of thoroughbred stock, obtained from the same farm, *inoculated* with the sarcoma propagated by Dr. Peyton Rous. Fragments of this tumor and of normal tissues of chick embryos and adult individuals were cultivated comparatively in the plasma obtained from normal animals and in the plasmas obtained from sarcomatous chickens at different stages of the disease. Sharp differences in the rate and in the dimensions of the growth could easily be observed, even without the use of the microscope.

INFLUENCE OF NORMAL AND SARCOMATOUS PLASMAS ON THE GROWTH OF SARCOMATOUS TISSUES

Sarcoma cultivated in the plasma of the individual bearing the tumor grew very extensively. The area covered by the new cells in twenty-four hours was often fifteen or twenty times larger than the area of the primitive fragment. When the same sarcoma was cultivated in the plasma of a normal animal its growth was active although less extensive than in the plasma of the same individual. The same sarcoma cultivated in the plasma of another sarcomatous animal grew very little or even did not grow at all. If the plasma was taken from an animal recently inoculated and bearing a small tumor, it inhibited slightly only the growth of the tumor, but if it belonged to an animal bearing a very large and actively growing tumor it prevented completely the development of the cultures. Therefore the *plasma of a sarcomatous animal acquires the property of inhibiting the growth of a sarcoma taken from another animal.*

What causes the inhibition? Is it due to substances secreted by the tumor or to substances produced by the organism as a reaction against the tumor? If the inhibition is caused by substances secreted by the tumor and contained in the blood of the sarcomatous animal it might be possible to give that inhibiting power artificially to normal plasma by adding to it serous extract of sarcoma. Therefore we added a little sarcomatous extract to cultures of sarcoma in normal and in sarcomatous plasmas. The growth of sarcoma in normal plasma with sarcomatous extract was markedly accelerated. It showed, evidently, that the inhibiting power of sarcomatous plasma was not due to substances secreted by the tumor. Then it is, possibly, caused by substances produced by the organism as a reaction against the tumor. It is important to consider that the inhibiting power of the sarcomatous plasma is felt only by a tumor belonging to another animal, that is, by a homogenic tumor. The tumor belonging to the animal which has given the plasma, that is, the autogenic tumor, is not affected by the inhibiting substances. If a tumor could be sensitized to the action of the inhibiting substances existing in the plasma of the organism on which it grows, its development in the same plasma would probably be prevented.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

INFLUENCE OF NORMAL AND SARCOMATOUS PLASMAS ON THE GROWTH OF NORMAL TISSUES OF NORMAL AND SARCOMATOUS ANIMALS

The comparative action of normal and sarcomatous plasmas was studied on normal spleen of sarcomatous animals, on normal spleen of normal adult animals, and on spleen, cornea, cartilage and skin of embryo chicks, eight and fifteen days old.

The plasmatic medium was taken from normal adult animals and from animals bearing small and recent tumors, or old and extensive tumors.

Fragments of spleen extirpated from a normal animal grew sometimes at the same rate in normal and sarcomatous plasmas, but it happened also very often that they grew more quickly and more extensively in sarcomatous plasma.

Fragments of spleen extirpated from a sarcomatous animal grew almost always much more quickly and extensively in sarcomatous plasma than in normal plasma.

It was also observed that spleen taken from chick embryos grew very much better in sarcomatous than in normal plasma. Embryonic connective tissue also showed a larger development in sarcomatous plasma.

The activation of growth produced by the sarcomatous plasma is affected in a large measure by the size and the age of the tumor of the animal which gave the plasma. Plasma from an animal with a large and old tumor is more stimulating for normal tissues than the plasma from an animal with a small and recent tumor.

What causes the stimulating action of sarcomatous plasmas on normal tissues, and especially on spleen?

It may be substances secreted by the tumor and diverted into the blood. In some experiments the growth of normal tissues cultivated together with fragments of tumor in normal plasma was noted to be accelerated. The results were not constant but showed that sarcoma may stimulate the growth of a tissue under certain ill-determined conditions. Therefore we attempted to modify the action of normal plasma by adding to it a little serous extract of sarcoma. Several series of experiments of that kind were performed. Normal spleen was cultivated in normal and sarcomatous plasma. In one of the series a little sarcomatous extract was added to normal and sarcomatous plasma. In the series in which no extract was added spleen grew very much better in sarcomatous than in normal plasma. On the contrary, in the series in which extract was added spleen grew more quickly and more extensively in normal plasma. It showed that normal plasma had become stimulating by mere addition of a little sarcomatous extract. The same experiments were repeated with embryonal spleen. Embryonal spleen was exceedingly sensitive to the action of the extract. We observed a very marked and sometimes an enormous acceleration of the growth. In one case, the area covered in twenty-seven hours by the new cells was almost forty times larger than the area of the primitive fragment. In a few days the primitive fragment resolved itself into cells and disappeared almost completely. Therefore, the stimulating influence for normal spleen acquired by the sarcomatous plasma may be due to a substance produced by the tumor and analogous possibly to the serous extract of sarcoma.

Is the stimulating substance specific to sarcoma, or is it contained in all actively growing tissues of connective and other types? We had already observed that the growth of cartilage can be stimulated by a fragment of quickly growing spleen, and that a new culture of spleen is activated by addition of a little piece of spleen in full growth. Nevertheless, fragments of spleen cultivated in plasma with tumor and embryonal extract, showed that tumor extract has a very much more energetic stimulating power than embryonal tissues extract.

These biologic characteristics of sarcoma have been studied only on the tumor of Dr. Rous. It will be important to ascertain whether they apply only to this sarcoma or if they express a more general law of development of experimental malignant tumors.

Sixty-Sixth Street and Avenue A.

GROWTH IN VITRO OF THE TRANSPLANTABLE SARCOMAS OF RATS AND MICE*

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Carrel and Burrows[1] have recently shown that, through the substitution of blood plasma for lymph, Harrison's method of growing *in vitro* the tissues of the frog embryo may be extended to mammalian tissues, human and fowl sarcomas. A brief description of their technic as applied to chick embryos has just appeared.[2] This procedure opens such a splendid field for experimental cancer investigation that its application to the transplantable rat and mouse tumors seems highly desirable. The size of rats and mice offers a difficulty, since the insertion of a cannula into any of the easily exposed vessels of young rats of the size best suited to tumor inoculation is rather tedious, and this difficulty is obviously greater in mice. Moreover, it appeared to us that the injury to the vessel lining through the use of a cannula would cause as much contamination with tissue juices (activator) as a simpler and easier method that we shall describe.

METHOD

The carotid artery is exposed by careful dissection for its entire length in the neck and after ligating above and clamping below with light serrefine forceps of easy grasp, is nicked with sharp-pointed scissors. The flap so made is caught with delicate forceps and the artery severed. The end of the vessel and the supporting forceps are covered with olive oil, the clamp released and the blood allowed to spurt into paraffined glass tubes of small caliber. The first drop or two of blood should not be used. In young 60 gm. rats approximately 1 c.c. of blood may be taken without causing the death of the animal. This yields a little less than 0.5 c.c. of plasma, a quantity sufficient for fifteen to twenty preparations. Twice as much plasma can be secured by bleeding the animal to death, but in many instances, as for example, in immunity studies, this may not be desirable. We have found that plasma obtained in this way remains fluid for at least a half hour and can probably be kept much longer if a low temperature is maintained. The remainder of the technic is the same as that described by Burrows, except that the tissues were teased at room temperature instead of body temperature.

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* From the Department of Pathology, College of Physicians and Surgeons, Columbia University (The George Crocker Cancer Research Fund).

[1] Carrel, Alexis, and Burrows, Montrose T.: Cultivation of Adult Tissues and Organs Outside the Body, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379; Cultivation of Sarcoma Outside of the Body, THE JOURNAL A. M. A., Oct 29, 1910, p. 1554.

[2] Burrows, Montrose T.: The Cultivation of Tissues of the Chick Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2057.

We have grown *in vitro* a spindle-cell rat sarcoma and a mixed-cell mouse sarcoma, both from Ehrlich's laboratory. The rat sarcoma on transplantation gives 80 to 90 per cent. of "takes" in young animals and pursues a rapid course. In cultures we obtained growths in 70 to 90 per cent. of the preparations. Plasma from normal young rats seems to afford as good culture medium as that from the tumor-bearing animals. Routine examinations were made eighteen hours after "inoculation." At this time a certain percentage show a luxuriant growth far into the media, similar to that described by Carrel and Burrows for the Rous fowl sarcoma. Others show offshoots at various points extending several cell lengths, giving the specimen a prickly appearance. The type of cell varies with the rapidity of growth and age of the culture. In the early sprouting type of growth, the cells are long, spindle-shaped and finely granular. In later stages the cells become coarsely granular. These granules are brilliantly stained by Sudan III and Scharlach R. Where the growth has been very luxuriant the cells are irregular in shape, triangular, spindle-shaped or rounded, with long processes at one or several points. In some specimens growth does not begin until thirty-six or forty-eight hours. The cell type in these latent growths is distinctly different from that in the early wildly growing specimens and suggests that we may be dealing with a proliferation of connective tissue (stroma). Further study will be necessary to settle this point. We have not determined the final limit of growth but have noted that growth may continue for at least four days. Sections of the preparations show that most of the cells of the original piece of tissue remain alive. Mitoses are frequent.

The mouse sarcoma employed gives about 90 per cent. of "takes" when transplanted, grows rapidly and usually kills the host in four to six weeks. It may also be successfully transplanted into rats, in which for the first ten days it grows as well or better than in mice, afterwards undergoing rapid retrogression. This phenomenon suggested the use of rat plasma as a culture medium, since, apart from the value of determining the possibility of growing mouse sarcoma in rat plasma, the larger quantity of plasma obtainable facilitates the technic. Results were positive in a majority of the preparations. The growth in some was even more luxuriant than in the case of the rat sarcoma.

This preliminary study, then, indicates that cultural methods may be easily adapted to the experimental investigation of the transplantable rat and mouse tumors.

437 West Fifty-Ninth Street.

A CASE OF GANGRENE OF APPENDIX AND OMENTUM

OPERATION AND RECOVERY

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History.—The patient, R. R. A., O. S., was admitted to the hospital at 11 a. m., Dec. 10, 1909. Patient had reported at sickcall on morning of December 8, complaining of pain over entire abdomen, and diarrhea. On December 9, pain became localized in right iliac region. Temperature 99.5 F., pulse 82, respiration 18. On the evening of the 9th, temperature was 101 F., pulse 84, respiration 24; tenderness over right iliac region.

Examination.—On admission to the hospital the temperature was 101 F., pulse 120 and respiration 22, with pain and tenderness over appendix and rigidity of right rectus muscle. The patient was prepared for operation, which was performed at 2 p. m. Just prior to the operation the temperature was 101.4 F., pulse 122, and respiration 22.

Operation.—Under general anesthesia (ether) and with the usual aseptic and antiseptic precautions, an incision was made over McBurney's point, through the abdominal wall and into the abdominal cavity. The peritoneum was found much thickened from recent inflammation. The appendix was bound down by adhesions and its distal end was wrapped up in, and surrounded by, a dense mass of inflamed and gangrenous omentum. The last 1½ inches of the appendix were gangrenous, and it had ruptured about half an inch from the tip. Adhesions were broken down and the appendix was amputated, stump cauterized and invaginated into the cecum by a purse-string suture. The inflamed and gangrenous omentum (3 by 6 by 1½ inches) was ligated and amputated. The appendix was 5½ inches long, 1½ inches in circumference at its base and 2 inches in circumference near its tip. After removing the appendix and omentum, the abdominal cavity was flushed out with hot normal salt solution and the wound in the abdomen closed for two-thirds of its extent (peritoneum with fine catgut; muscles with chromicized gut; and skin with silkworm gut), and a drainage-tube inserted into the open one-third and dressings and a bandage applied over all.

Subsequent Course.—Patient was returned to bed in fairly good condition. At 7 p. m. his temperature was 100 F., pulse 120, and respiration 20, and he was given 1,500 c.c. of normal salt solution by proctoclysis; complained of some pain and tympanites. The patient was given a liquid diet and salol internally and did well, the wound closing slowly from the bottom, and the discharge lessening daily until January 10, when it was entirely healed and the entire gastro-intestinal tract in excellent condition and working normally. He has continued in excellent health since his recovery from operation.

This case shows what a serious condition of affairs may exist in the abdomen before any symptoms are observed; and even when symptoms do make their appearance, they are by no means indicative of the severity of the condition causing them. The symptoms in this case would not have led one to think that such a wide-spread gangrenous condition was present in the abdomen.

UMBILICAL HERNIA—AN UNUSUAL CASE

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NEW YORK

Umbilical hernia in itself is, of course, not at all uncommon, but the symptoms in this case were so peculiarly veiled that a brief summary may be of interest.

History.—Mr. X., aged 50, weight 160 pounds, had had the ordinary children's diseases with no complications; always enjoyed good health; no history of abdominal trouble of any kind. Three weeks prior to the first time I saw him, following a violent attack of sneezing (unrestrained), he suddenly had a sensation as if something had given away in his abdomen, and in a short time he was seized with an acute lancinating pain, centralized two inches to the right and one inch below the umbilicus. Generally it was of a grumbling character, giving the patient constant unrest. The duration was from a few hours to three days and was not influenced by standing, exercise, lying on the back or side or sitting. The patient would sometimes be awakened out of a sound sleep by the agonizing pain. It caused no gastric or intestinal disturbance. The general health, appetite, and so forth, were excellent. Rheumatic treatment, opiates and various applications (heat and cold, salves, lotions, etc.) were used to no avail by various physicians.

Examination.—The patient was a man in the prime of life, of good color, etc., but with a worried expression. No adventitious signs of any nature were noted until I came to a more intimate abdominal examination. The abdomen was rounded, with a tendency toward a slight protuberance; the navel was deep and no impulse seen on coughing suggestive of a hernia of any kind; no rigidity or spasm of abdominal muscles and no sign of tenderness on pressure even over the point (above mentioned) where he said that his pain was localized. There was no tenderness over McBurney's point, even with the psoas put on the stretch (Weir's method). On inserting the tip of the little finger into the umbilicus and getting the patient to cough, I noted a distinct impulse. This impulse was in the lower right quadrant and I could make out a loss of substance of the ring, wedge-shaped with the base of the wedge directed outward. Over this edge, on pressure, the patient complained of pain which was sufficiently acute to make him wince.

Treatment.—A proper abdominal truss with plate attachment was ordered and all discomfort subsided and has not returned after some months' duration, except when temporary removal of truss caused a return of the previous symptoms. The patient is still wearing the truss.

CONCLUSIONS

A portion of the great omentum must have been forced into this wedge-shaped space and either by pressure on its raw edge or a squeezing of the peritoneal lining, involved a nerve filament and thus referred the pain, not at the site of the trouble, but downward to the point the patient elected.

171 West Ninety-fifth Street.

TRANSFUSION OF BLOOD BY A NEW METHOD, ALLOWING ACCURATE MEASUREMENT

PRELIMINARY REPORT *

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During the past year, we have had occasion to perform, in conjunction with some experimental work, a considerable number of transfusions on dogs, the result of which will be reported at a later date. One of us, together with Dr. Louis Pollock of the Dunning Infirmary, has also transfused thirteen human patients afflicted with pellagra. In all of these cases, with one exception, the artery-to-vein method of Crile was employed. In one instance vein-to-vein anastomosis was performed.

From study of the literature, as well as personal experiences, we have obtained certain impressions of the most approved methods of transfusion now in vogue, which we would summarize as follows:

1. The operation requires delicate technic, such as is possessed only by those who have had extensive experience in blood-vessel surgery.
2. Considerable time is consumed in performing anastomosis of the vessels.
3. The rate of flow and the amount of blood transfused are not measurable.
4. The flow of blood sometimes ceases before the desired amount has been transfused, even though the operative technic is excellent.
5. Movement of either donor or recipient may tear the vessels apart at their point of union, in spite of the watchfulness on the part of the operators.
6. In infectious patients there is always danger of transfer of infection from the recipient to the donor. This is most liable to occur through the rubbing of the raw surfaces which are held or bound together during the entire procedure.

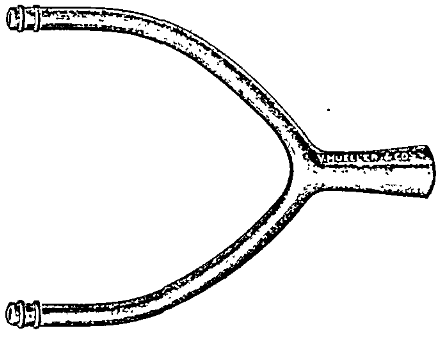
We believe that the method which we now employ overcomes most of these difficulties. Thus far it has proven entirely satisfactory.

The studies of Freund and Bordet and Gengou[1] have demonstrated that blood introduced into vessels coated with paraffin petrolatum remains uncoagulated for several hours. Practical use of this fact has been made in the development of our method.

The following instruments are required:

The usual instruments for exposure of vessels and suture of wounds; three mosquito forceps; two vessel clamps; one 100 c.c. Porges ground-glass syringe; and one especially constructed ground-glass or metal Y cannula.

The cannula consists of a neck and two arms (see illustration). The tips are 2 to 3 mm. in diameter and are provided with slightly raised collars to guard against slipping of ligatures. The neck of the cannula has a conical lumen which forms a firm smooth union with the end of the Porges syringe, which is inserted into its base. (Any other carefully constructed ground-glass syringe serves the purpose equally well.)



The syringe and cannula are sterilized by the dry method, fitted together under aseptic technic and uniformly warmed over a flame. About 25 c.c. of sterile hot petroleum is then aspirated into the apparatus, and, after the latter is thoroughly and rapidly coated by working the piston up and down, the excess is forcibly ejected through the ends of the cannula.

The median basilic or other prominent vein of the elbow region is now exposed in both donor and recipient for a distance of 2 to 3 inches. The vein of the recipient is ligated at the end toward the hand, stripped of blood toward the heart and a rubber-protected vessel-clamp applied as far as possible away from the ligature. A clamp is then applied to the distal end of the donor's vein, the vessel is stripped toward the heart and ligated proximally. Each vessel is in turn cut squarely across near its ligature, caught up at three equidistant points by mosquito forceps and irrigated with warm salt solution. A cannula end is introduced into each vein and tied in position so that one cannula is continuous with the recipient's vein and the other with the vein of the donor. The clamp on the donor's vein is released and a syringeful of blood is carefully aspirated. The clamp is then replaced and the one on the recipient's vein removed. The blood is very slowly injected into the recipient and the clamp reapplied. This procedure is then repeated until sufficient blood has been transfused.

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* From the Memorial Institute for Infectious Diseases. This work was aided by a grant from the Fenger Memorial Fund.

[1] Ann. de l'Inst. Pasteur, 1903, p. 822.

REPORT OF EXPERIMENTS

Experiment 1.—Large dog. A medium-sized saline transfusion cannula to which a 100 c.c. Porges syringe was accurately fitted was sterilized and well lubricated with petrolatum. The external jugular vein was exposed, a slit made in it at its upper end, and the cannula tied into the vein pointing away from the heart. Eighty c.c. of blood were aspirated into the syringe and the vein was ligated above the cannula. A slit was then made in the vein an inch nearer the heart and the cannula inserted pointing toward the heart. The blood was slowly injected, the vessel was ligated and the incision closed. Uneventful recovery.

Experiment 2.—Small dog, donor; medium-sized dog, recipient. A Y cannula and a 100 c.c. Porges ground-glass syringe were used, after usual preparation of the apparatus. External jugular vein of each dog exposed. The vein of the recipient was ligated near the distal end, stripped of blood and an artery clamp applied proximally. The recipient was bled 100 c.c. from another vein. An artery clamp was placed high up, distally, on the vein of the donor, the vessel was stripped of blood and ligated at the end nearest the heart. Each vein was in turn cut squarely across near the ligature, caught up at equidistant points with mosquito forceps and irrigated. Each vein was then slipped over an arm of the cannula and tied in position. The cannula tips now pointed toward the head in the donor's and toward the heart in the recipient's vein. The clamp on the donor's vein was removed and the syringe filled with blood, after which the clamp was reapplied. The clamp on the recipient's vein was then removed and the blood (100 c.c.) slowly injected. The clamp was then reapplied. The process was repeated and 75 c.c. more of blood were injected into the recipient's vein. The vessels were ligated and the wounds closed. Blood retained in the apparatus was liquid.

Results.—Blood-smears twenty-four hours afterward showed red cells normal in all respects. There was a normal percentage of polynuclear leukocytes, and no evidence of phagocytosis of the red cells could be found. Observation of the recipient for a number of days showed nothing abnormal.

Experiment 3.—Medium-sized dog. Usual preparation of apparatus. Three-inch exposure of external jugular vein. A clamp was placed high up on the vein, the blood was stripped out of it and a clamp placed nearer the heart. The vessel was then cut in the center between the clamps, the cut ends grasped with mosquito forceps, irrigated and each cut end slipped over one arm of the cannula and tied in position. One hundred c.c. of blood were transfused from the distal into the proximal end of the vein. Uneventful recovery.

Experiment 4.—Medium-sized dog. A 100 c.c. one-piece tubular glass chamber with divergent cannula at its base was used. Transfusion from the common carotid into the internal jugular vein toward the heart was performed. A large aspirating syringe fitted to the neck of the chamber exerted the desired positive and negative pressure. Four hundred c.c. of blood were transfused. Recovery prompt.

Experiment 5.—Medium-sized dog. Apparatus as in Experiment 4. Both external jugular veins were exposed and 350 c.c. of blood were transfused from the left into the right toward the heart. Uneventful recovery.

Experiment 6.—Two medium-sized dogs. Apparatus consisted of the Porges syringe and Y cannula with usual preparation. The donor in the experiment had been the recipient in one of the preceding experiments. Internal jugular of donor and external jugular vein of recipient exposed. Vessel clamp on the distal end of the donor's vein, which was stripped free of blood and ligated toward the heart, cut near the ligature, the end irrigated and tied over one end of the cannula. The recipient's vein had vessel clamp applied proximally. The vein was ligated toward the head and cut across near the ligature, the end irrigated and tied over the other arm of the cannula. Two hundred and fifty c.c. of blood were transfused from the donor into the recipient. Recovery was uneventful.

TRANSFUSION IN A HUMAN SUBJECT

Thus far, we have used our apparatus in but one human transfusion. The donor was a healthy, middle-aged man with negative history. The recipient was a patient about 50 years old with a severe case of pellagra. Preliminary hemolysis tests were negative. The patients were placed side by side with heads in opposite directions; their left arms were extended at right angles so that their elbows were in apposition. Preliminary to the transfusion a moderate amount of blood was removed from the recipient. The median basilic vein of each was freed by dissection for a distance of about three inches. The vein of the recipient was ligated distally, stripped in a proximal direction and a clamp applied high up. A vessel-clamp was applied to the distal end of the donor's vein, the vessel was stripped in a proximal direction and ligated. Petrolatum was applied to the field of operation. The vessels were in turn cut squarely across, caught with mosquito forceps, washed out with salt solution and tied over the arms of the Y cannula. One hundred and sixty c.c. of blood were transfused. Uneventful recovery.

Some may hesitate to use the apparatus because of the fear of fat embolism from the petroleum used to coat the instruments. Certain facts which speak strongly against such a possibility may be mentioned. Physiologic salt solution at body temperature, repeatedly aspirated and expelled from the petrolatum-coated syringe, did not show an accumulation of fat on the surface of the solution. Even were fat introduced into the circulation, (and this we think unlikely) it would be in an amount so small that no serious effects could result. The animals used in our experiments showed no evidence of embolism. Carrel,[2] in performing vessel transplantation, used large segments of vessels which had been placed in petrolatum; he reports no ill effects.

While our technic seems simple, every step outlined in its execution is essential to its success. The careful coating of the apparatus with petrolatum, stripping of the vessels, thorough cleansing of their cut ends with salt solution, and gradual injection of the blood are most important. The method is in accord with experimental observations and has thus far proved entirely successful in practice, yet it must be understood that this report is a preliminary one, and that the work is as yet in the experimental stage. At present, however, the method appears to possess the following advantages:

1. The amount of blood transfused can be accurately measured.
2. The rate of flow may be definitely controlled.
3. There is simplicity of technic with great saving of time. In emergency cases this should be of great benefit.
4. Success in the transfer of blood is assured.
5. There is lessened danger of transfer of disease from the recipient to the donor.

103 State Street—72 East Madison Street.

Large-Celled Sarcoma of Brain.—The patient, a boy aged 16, was brought to the out-patient department for deafness. On investigation there seemed to be no deficiency in the auditory apparatus, but very slow cerebration. No paralysis or other motor symptoms were found, except tremors of hands and nystagmus. Sight was good, but there was double optic neuritis, slight pain in the head, and no vomiting, except on one day. He was admitted as an in-patient a few days later, and he become progressively more and more drowsy; he could, however, take his food, and had no incontinence. About two weeks later sight began to fail rapidly; there was intense optic neuritis in both eyes. An operation was proposed to relieve pressure, but the patient in about twenty-four hours passed into a condition of coma and died from apparently sudden cardiac failure.—John T. Leon, *Proc. Roy. Soc. Med.*, July, 1910.

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[2] Carrel: Ann. Surg., 1910, lii, 462.

DIPHTHERIA IN ITS RELATION TO PUBLIC HEALTH

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INDIANAPOLIS

Many of the difficulties encountered by those engaged in public health work arise from the failure of many practitioners to realize the significance of certain facts that are matters of common knowledge to laboratory workers. The following paper is based on an analysis of the examinations of throat cultures at the bacteriologic laboratory of the Indiana State Board of Health. The facts presented are not essentially new, but because of their importance in public health work their rehearsal is thought to be warranted.

The total number of throat cultures examined for diphtheria bacilli during the year ending Oct. 31, 1910, was 2,288. Of these, 624, or 27.2 per cent., were positive.

The influence of school attendance on the incidence of diphtheria in this state is quite marked. Smith's report[1] to the London County Council in 1896 showed that the greatest incidence of this disease in England and Wales was among children from 1 to 3 years old, *i. e.*, before the school age. According to our statistics, however, only 17 per cent. of positive first cultures were from patients under 5 years of age, while 58 per cent. were from patients between 6 and 14, and 12 per cent. from patients between 15 and 20. The average number of positive first cultures per month during the vacation period was sixteen, as contrasted with a monthly average of seventy-seven during the school term. The influence of attendance at school appears to be most marked at the beginning of the school year, since the average for September, October and November was 110 positive cultures, while for February, March and April it was only twenty-three. The results last year were in the same proportion.

While age is an important factor in the etiology of diphtheria, it is a mistake to consider the disease exceedingly rare in adults. Thirteen per cent. of our positive first cultures were from patients over 21 years old. If cultures had been taken from as large a proportion of the cases of sore throat in adults as in children the percentage of positive results in grown persons would undoubtedly have been larger.

In 1,164 cases the physician made some definite statement as to clinical diagnosis. The results of the comparison of the clinical and bacteriologic diagnoses are shown in Table 1.

TABLE 1.—THE RELATION OF BACTERIOLOGIC TO CLINICAL DIAGNOSES

Clinical Diagnosis	Bacteriologic Diagnosis Positive	Negative	Totals
Diphtheria	161	118	279
Not diphtheria	118	537	655
Doubtful	81	149	230
Totals	360	804	1,164

Of 279 cases diagnosed as diphtheria by the physician, only 161 or 57.7 per cent., proved positive. Of 655 cases diagnosed as tonsillitis, ordinary sore throat, etc., *i. e.*, "not diphtheria," 118, or 18 per cent., showed the bacilli in cultures. Out of 230 "doubtful" cases, eighty-one, or 23 per cent., were found to be diphtheria. These percentages are not materially changed if the figures for the last two years, representing a total of 2,047 positive first culture cases, are taken. This is not due to local conditions in Indiana. At the Boston City Laboratory,[2] 68 per cent. of cases diagnosed as diphtheria clinically contained diphtheria bacilli; at the Philadelphia Laboratory,[3] 83 per cent.; and at the Chicago Laboratory,[4] only 34 per cent.

That the presence of a membrane or exudate is no absolute criterion in diagnosis is shown by the fact that of 845 cases in which a membrane or exudate[5] was said to be present, only 288, or 33 per cent., were positive, while of 271 cases with no membrane or exudate, forty-three cultures, or 16 per cent., were found to contain diphtheria bacilli.

The chances of error in the clinical diagnosis of diphtheria should be borne in mind by physicians on account of the necessity of quarantine in this disease. It is evidently unjust to both the patient and his family to place him in quarantine on a clinical diagnosis of diphtheria which, in over 40 per cent. of the cases, is proved by bacteriologic examination to be incorrect. On the other hand, it is not right to endanger the community by allowing a child to go about at will because a physician, on clinical grounds alone, has pronounced the case not diphtheria. Such diagnoses are proved bacteriologically wrong in about 18 per cent., of the cases. The statement seems to be warranted, then, that a physician is never justified in depending solely on the clinical picture for final diagnosis when the results of a laboratory examination can be had within a reasonable time. This statement applies not so much to treatment as to the proper regulation of quarantine.

Of 350 positive first culture cases, in which the physicians gave some information as to exposure, in only ninety-four (26.8 per cent.) did the patient give a definite history of having been in contact with some person suffering from diphtheria. In 109 instances, 31.1 per cent., diphtheria was present in the community but the patient had not been exposed, while in 150 cases, 42.8 per cent., no source of infection could be found.

There is no law or rule in this state requiring one or more negative cultures before a patient is released from quarantine. Hence, the records of this laboratory furnish very little data concerning the length of time diphtheria bacilli may remain in the throat after apparent recovery from the disease. The records of last year, however, show that in thirty-six cases, diphtheria bacilli were still present, as shown in Table 2.

TABLE 2.—RECORDS OF PRESENCE OF DIPHTHERIA BACILLI

After 6 to 10 days in	6 cases
After 11 to 15 days in	10 cases
After 16 to 20 days in	10 cases
After 21 to 25 days in	3 cases
After 26 to 30 days in	4 cases
After 41 to 45 days in	2 cases
After 58 days in	1 case
Total	36 cases

SUMMARY

The influence of school attendance on the incidence of diphtheria is shown (a) by the very large percentage of cases that occur in children within the school age, and (b) by the higher monthly average of positive cultures received during the school months as compared with the vacation months.

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[1] Smith: Jour. State Med., 1896, iv, 169.

[2] Twenty-Ninth Ann. Rep. Health Dept. of Boston, 1900, p. 96.

[3] Personal Communication from Dr. J. S. Neff.

[4] Rep. Chicago Board of Health, 1905, p. 46.

[5] No distinction is made here between a membrane and an exudate, because the statement of the physician was in many instances so confusing that an attempt at distinction was impracticable.

The chances of error in the clinical diagnosis of diphtheria are so numerous and the period of time during which virulent bacilli may remain in the throat after apparent recovery is so variable that a physician is never justified in quarantining or releasing a diphtheria patient without a bacteriologic examination, if such is obtainable.

PYELITIS OF PREGNANCY

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The etiology of pyelitis complicating pregnancy is somewhat obscure. The predisposing causes are the following:

1. Pressure on one or both ureters by the gravid uterus. Experimental studies on the cadavers of pregnant women show that the right ureter is more frequently pressed on by the uterus. It is well known that the right kidney is much more frequently affected in pyelitis of pregnancy.
2. Infection of the urinary tract; cystitis, ascending or hematogenous infection above the point of pressure.
3. Constipation is often stated as a possible cause, due to the presence of *B. coli communis* as the most frequent exciting cause. The hypothesis is that constipation and its inflammatory changes in the wall of the colon permit the bacilli to be carried directly from the colon to the pelvis of the kidney, and the close proximity of the colon to the right kidney rather strengthens this hypothesis.
4. Infectious diseases.
5. Traumatism is said by MacFarlane to be more often the predisposing cause than generally supposed.
6. Physical conditions which lower the vitality of the patient, such as exposure to cold, lack of proper food, etc.
7. Multiparæ and primiparæ seem to be almost equally affected.[1] So far as one can judge from reported cases, there does, however appear to be a slight excess of primiparæ.
8. From the fifth to the eighth month is the usual time of onset.

The exciting causes are (Mirabeau):[2] (1) gonorrheal infection; (2) pyogenic micrococcus infection; (3) *B. coli communis* infection; (4) tuberculous infection.

Tuberculous infection is well recognized as of frequent occurrence in cases of pyelitis, yet its presence during pregnancy would immediately raise the suspicion of its existence prior to the pregnancy, in which case pyelitis of pregnancy would not exist. Gonorrheal and pyogenic micrococcus infections are much more probable. The literature does not, however, warrant percentage statements. Swift[3] collected sufficient cases to warrant the assertion that *B. coli* infections are the most frequent in these cases: in seventeen examined bacteriologically this bacillus was found in pure culture seventeen times.

The diagnosis is that of a pyelitis developing for the first time during pregnancy, and usually disappearing before or during the puerperium.

The onset may be insidious or stormy, often with the marked chills and fever of advanced sepsis. The course depends on the exciting cause and the treatment. In most cases, especially those due to *B. coli,* the systemic and urinary signs disappear gradually within a few (two to ten) weeks under the treatment outlined below. In the forty cases collected by Swift, spontaneous premature labor occurred four times, was induced once, nephrotomy was performed once ante partum and four times post partum. Opitz[4] states that in the cases reports of which were collected by him, out of sixty infants born, seven were stillborn or died soon.

The following treatment is rational and well supported by those who have written on the subject:

1. Absolute rest in bed.
2. Fluid, preferably milk, diet.
3. Mild catharsis.
4. Hexamethylenamin, 0.5 gm. every three hours night and day in a full glass of cold water. The frequency of dosage is gradually lessened as the case improves.
5. Posture to relieve the ureter on the affected side, if the infection be single. The patient is instructed to lie as much as possible on the left side, should the right kidney be affected.
6. The statement that interruption of pregnancy is seldom if ever necessary appears to have the support of all those who have had experience with pyelitis of pregnancy.
7. Autogenous vaccine treatment has found favor with Hicks, and future experience may fully demonstrate its usefulness.
8. Topical applications in the bladder, or in the pelvis of the kidney, of the salts of silver, or other like antiseptic solutions, seem to be of service in severe cases, although in the average case of *B. coli* infection, the patient will do well on hexamethylenamin alone.

The following case will serve as an illustration:

Mrs. R., aged 23, primipara, pregnant six and one-half months, voided normal urine one week previous to the onset of the pyelitis. August 27, the patient had a chill, the temperature reaching 103 F., taken by mouth. From the first, pain was complained of on the right side of the abdomen from the right hypochondriac region downward into the pelvis. There was no abdominal distention and very little rigidity over the right kidney, which was very tender on slight pressure. The second day of the illness, urinalysis showed the presence of pyelitis, and blood examination proved a leukocytosis of 20,000 per cm., with 87 per cent. polynuclears. The urine gave a heavy trace of both serum and nucleo-albumin; one pus-cast was found; the pus-cells were well distributed, not in clumps, forming on sedimentation one-fifteenth of the whole bulk of the urine; specific gravity 1,024; sugar, none; reaction, strongly acid to litmus. The ureters were not catheterized because the diagnosis seemed clear without the operation. The patient was convalescent September 1 at the end of about a week from the onset, the temperature twice reaching 104. Bacteriologic examination of the urine, drawn aseptically from the bladder, showed a bacillus of the morphology and cultural characteristics of the colon bacillus.

For some weeks previous to the onset of pyelitis and during the remaining months of the pregnancy, the patient complained of the most intense itching, worse at night, and accompanied by a maculopapular eruption generally distributed over the trunk, arms and legs, but not on the face. The condition being mistaken at first for pediculosis vestimenti because the eruption at that time consisted in little more than the marks of vigorous scratching, antiparasitic treatment was rigorously tried without effect. Mild catharsis with menthol applications gave temporary relief. Yet despite every method of treatment we could devise the patient lost night after night of sleep because of the itching. October 30, two weeks before term, I delivered her of a normal six-pound infant. Within twenty-four hours the itching had subsided, and the eruption disappeared within three days.

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[1] Cragin: Med. Rec., New York, July 16, 1904.

[2] Mirabeau, S.: Schwangerschafts-Pyelitiden, Arch. f. Gynäk., 1907, lxxxii, 485.

[3] Swift, J. B.: Boston Med. and Surg. Jour., Feb. 21, 1907.

[4] Opitz, E.: Ztschr. f. Gynäk., 1905, lv.

The urine contained albumin and pus at intervals during the last month of the pregnancy in amounts sufficient to cause anxiety, and at times very little of either. The last specimen examined the day before delivery was free from both pus and albumin. At no time after the attacks described above were serious systemic effects noted. The urine after delivery contained neither pus nor albumin.

Therapeutics

INFANT MORTALITY: MILK

Few subjects have attracted more attention during recent years than that of infant mortality. It is not a new subject, for it received, thirty or forty years ago, much attention from members of the medical profession who specialized on diseases of infancy and childhood. But it seems to have been the rule that little attention was paid by the public to what was said by physicians. After several decades it seems to have occurred to political economists and sociologists that many lives might be spared to the state, presumably for useful service, if a little more attention was paid to the prevention and cure of some of the diseases which cause an astonishing mortality among babies.

An infant is defined by Foster as "a child not yet old enough to talk and walk."

Dr. J. Lewis Smith ("Diseases of Children," fifth edition, 1881) says, "Infancy extends from birth to the age of two and one-half years, or until the completion of first dentition."

The extent of the mortality among infants has been variously estimated by various statisticians. An estimate, which is generally accepted as not far from the fact, is that 15 per cent. of all children born die before they are one year old. Approximately one-third of these deaths during the first year are due to congenital malformations, deformities and weaknesses; another third to diarrheal diseases; a little less than one-fourth to respiratory and tuberculous diseases; and the remainder to other diseases.

It is toward the diminution of the number of deaths from diarrheal diseases that the present crusade is most conspicuously directed. A very large proportion of these deaths occur during the hot weather, between July 1 and October 1, and are directly traceable to improper feeding and improper food. Hence arises the great importance of the problem of feeding the infant.

When the fact is recalled that the milk of different animals varies in composition, it is not necessary at the present day, and in the present advancement of scientific knowledge, to enter on any argument to attempt to prove that the milk of the human mother is the very best food for the human infant during the early months of its life. Every woman, therefore, who gives birth to a living child, unless she is suffering from some serious disease, should nurse her child. This course is not only decidedly advantageous to the mother, but is also of the greatest importance to the child.

No artificial method of feeding has ever been devised which is as beneficial as nursing at the breast of a healthy mother. Unfortunately, many mothers object to performing this duty on various grounds; some because they have sore nipples and nursing is painful: others because the baby will not take the nipple, and therefore is given a bottle instead; others because they think that their milk is not adequate in quantity or of sufficiently good quality to properly nourish the baby; others because they think that their health is being undermined by the drain on the system incident to lactation; and still others because they are unwilling to give up social pleasure so as to be available to nurse the baby every two or three hours. All these conditions should be taken into account by the physician, and such as are present in any individual should, if possible, be removed. He should emphasize to the mother the great importance, both to herself and to her baby, of providing the natural food from her own breast for her baby. He should also give explicit directions to the nurse in regard to the care of the breasts and nipples so that the latter may not get sore, a condition which not infrequently is accompanied by serious diminution of the flow of milk. The nurse should be instructed in regard to the frequency of nursing, and entirely to avoid feeding the baby (unless it is too weak to nurse) anything except what it extracts from its mother's breast. She should also be instructed in regard to the food which should be given to the mother in order to encourage the flow of milk, and in regard to requiring the mother to rest, and to avoid overexertion, which sometimes seems to diminish the flow of milk. It should be impressed on the nurse that it is a reflection on her ability if her puerperal patient does not nurse her baby.

It perhaps seems to some to be a waste of time to write or read anything so trite and commonplace as the statements above, but their great importance amply justifies their repetition at this time and in this place, and especially because (1) there are a few physicians who even now do not insist on their patients nursing their own babies, because (2) some nurses encourage young mothers not to nurse their babies, but to bring them up on the bottle, and because (3) many mothers insist that they do not want to nurse their babies on account of the inconvenience which is associated with the performance of this maternal duty.

If the mother cannot or will not nurse her own baby, the next best resource is a good wet-nurse. By this means the baby is supplied with human milk, and if the nurse is healthy, and was delivered at approximately the same date as the child's own mother, the substitute will usually prove very satisfactory. But practically, this method of feeding a baby is applicable to only a very limited number of the babies who are denied nourishment at their own mother's breast.

In connection with this subject the question arises, How long should maternal lactation be continued? Thirty years ago it was advised to begin to give other food than milk at the age of six months, and to discontinue lactation entirely at the end of twelve months, or, if this time came during the summer, to postpone weaning until the hot weather was over. More recently, other writers, like Dr. Joseph E. Winters of New York, have maintained that other food should be added after the second month, at which time the maternal milk shows a decided diminution in the amount of protein and mineral constituents. Winters maintains that "it is physiologic to wean as soon as practicable after the second month," but that among the poorer classes, on account of the difficulty of getting fresh, pure milk, weaning should not be advised at the end of the second month, but that nursing should not be continued beyond the fifth or sixth month. This advice will be accepted with considerable caution by most practitioners, who prefer, as a rule, that, if there is a good supply of milk of normal quality, supplementary feeding should commence at from four to six months, and nursing should not be entirely discontinued until from the tenth to the twelfth month. On the other hand, if a mother is determined not to nurse her baby at all, on account of her desire to enter actively into social life, or to avoid the trouble and inconvenience of lactation, the physician may propose, as a sort of compromise, that she should nurse the baby until the end of the third month, and then wean it. If she will do this, the infant will be carried over the period—the first three months of its life—during which artificial feeding is conducted with the greatest difficulty and the least success.

But there yet remains in addition to the not inconsiderable number of mothers who absolutely refuse to nurse their babies, another by no means small number of those who think that they cannot nurse their babies and do not, and still others who for various reasons really cannot nurse their babies.

When human milk is unobtainable, the best substitute, from a practical point of view, is cow's milk, because it can generally be obtained in abundance in a more or less fresh state. Its composition is well understood, also the respects in which it differs from human milk. Like everything else in common use, it varies greatly in quality, and some of these variations are intimately associated with unhealthfulness. Years ago consumers were especially disturbed by the abnormal proportion of water which many specimens of milk contained, and which was alleged to have been introduced surreptitiously by the producer or the dealer. This adulteration has largely been prevented by state legislation and the activity of local health boards.

With increasing knowledge of fermentation and putrefaction, and the relation of bacteria to these processes, it became evident that milk, although kept free from intentional dilution and contamination, readily underwent deleterious changes under the influence both of its inherent tendencies and of extraneous contaminating matters accidentally introduced into it. At present the most important cause of the deterioration of milk and the development of deleterious qualities in it appears to be the growth of bacteria. It seems to be practically impossible, even with the greatest care, to secure milk which is entirely free from bacteria, even when it is first drawn from the cow. Possible sources of contamination are dust and dirt in the air of the barn or dairy, and manure and other dirt loosely adherent to the hair of the cow, the hands and the clothing of the milker, and the utensils used in the transportation of the milk.

It would consequently appear that the work of extracting the milk from a cow should be conducted in the same way as an aseptic surgical operation.

1. The barn, or whatever place is occupied when the cow is milked, should be constructed so that it can be readily and thoroughly cleaned, and it should be cleaned at short intervals. This will be accompanied by a diminution in the amount of dirt and dust and bacteria in the air, and so the amount of contamination is diminished.

2. The milker, whether milkmaid or milkman, should wear clean clothing and have his hands cleaned by careful washing.

3. The cow should be made clean by washing and regular brushing, so that no manure adheres to the hair to be shaken or brushed off into the milk.

4. The utensils used in handling the milk, and especially the milk-pails, should be thoroughly sterilized by careful washing with boiling water.

By using effective caution in these four particulars the contamination of the milk may be greatly lessened. As precautions in these directions are imperfectly carried out, the number of bacteria increases and the conditions are more favorable for early deterioration of the milk.

Practically, most milk which is furnished to the consumer contains an abundance of bacteria, and an important practical problem is how their injurious effects may be avoided. It has been found that the growth of bacteria is prevented by a low temperature. Therefore, it is apparent that all milk should be cooled to a temperature not above 50 F. as rapidly as possible, as soon as it is drawn from the cow, and it should be kept at a temperature not above 50 F. until it is used.

But what milk-producers should do, and what they really do, are very different things. It is found that a large proportion of milk actually furnished to consumers contains a large number of bacteria, and that in many cases, through the growth and multiplication of the bacteria, it has already undergone changes which render it an unsafe food for human beings, and especially for infants. Not so very many years ago the advice was given to obviate this defect by "sterilizing" the milk by boiling it. It was even advised to sterilize all the milk which was fed to infants. This was soon found to be objectionable (1) because it altered the taste and made the milk less palatable, and (2) because exposure to such a degree of temperature as was necessary to boil milk produced such changes in it, including a destruction of the enzymes, that it was not a good food for infants.

Next in order to avoid this interference with the digestibility of the milk, it was proposed to subject the milk to such a temperature, below the boiling-point, as would inhibit the growth of bacteria and would not make other objectionable changes in it. This temperature was found to be about 140 F., and the process of heating the milk to this temperature was designated as "pasteurization." In recent years pasteurization has become almost a craze, and has been extensively employed, especially in large cities, and unquestionably with a favorable influence on infant mortality. But some have objected to this process, and here we must again quote Winters, who maintains that even pasteurization causes a dissociation of the organic combination of the protein and mineral constituents of the milk so that they are less suitable for assimilation by the infant. Where it is possible for the consumer to get milk which has been produced under favorable conditions, and to get it at once, as soon as it comes from the cow, without the delay incident to transportation, and when it is properly cared for by the consumer and used within twenty-four hours, there is no need of pasteurization.

Where, on the other hand, as is the case in most large cities, milk is twelve or twenty-four hours old when it reaches the consumer, and consequently at least a part of it is thirty-six or forty-eight hours old before it is consumed, and when the conditions under which it has been produced are unknown to the consumer, great care must be exercised to keep it at a low temperature until it is used, and then, for infants it certainly should be pasteurized.

During recent years municipal boards of health, by the enactment of ordinances regulating the production and distribution of milk, have accomplished very gratifying results in improving the quality of milk. Occasionally, however, it becomes contaminated with pathogenic organisms. Epidemics, more or less extensive, of typhoid fever, scarlet fever, and diphtheria, have been traced to milk which has become infected. It seems proved that tuberculosis is caused by drinking milk coming from tuberculous cows and infected with tubercle bacilli. These facts are used as an argument, by some, for the routine pasteurization of all milk used for human consumption. It has been shown that subjecting milk for twenty minutes to a temperature of 140 F. destroys the pathogenic organisms therein.

A conservative man might well hesitate to advise universal pasteurization, but it is evident that the fresher the milk and the better the conditions under which it is known to be produced and distributed, the less need is there for any treatment designed to inhibit the activity of germs. On the other hand, the longer the time that elapses from the milking of the cow to the consumption of the milk, and the less that is positively known as to the salubrity of the conditions under which the milk is produced and distributed, the greater necessity is there for resorting to some means of destroying the pathogenic and other bacteria which are, or which are likely to be, present. For thus destroying the microorganisms in milk, which are such a menace to the health of consumers of milk, and especially of infants and young children, no method, at present in general use, is of more practical utility. To a family which has a healthy cow in its own stable cared for by a cleanly and careful man, it is not to be suggested. To one which has to use milk produced no one knows where, under conditions of which the consumer knows nothing, and which is of unknown age, pasteurization will often prove the means of avoiding not only the local disturbances of the digestive organs, but also sometimes of escaping one of the general infectious diseases.

Special Article

TYPHOID FEVER IN DES MOINES, IOWA

(By Our Special Commissioner)

Des Moines, the capital and largest city of Iowa, is situated almost at the center of the state, at the junction of the Des Moines and Raccoon rivers. It was founded in 1846 as a military post, incorporated in 1851 and became the state capital in 1857. It has grown rapidly, having in 1890 a population of 50,053, in 1900, 62,137 and in 1910, 86,732. This makes an increase during the last ten years of 40 per cent. It is noted particularly for its large insurance interests and its exceptional railroad facilities. Nineteen different railroads enter the city. The occurrence of bituminous coal in the region has helped largely to make the city an important manufacturing center. Among the products are books, carriages and wagons, engines and boilers, cotton and woolen goods, starch, and pottery. As one of the greatest educational centers of the middle west, it has thirteen colleges and technical schools with a total attendance of about six thousand. There are several fine public buildings and more are in progress of building. Its nineteen parks cover about seven hundred acres.

The city is built on hills, with drainage through numerous gullies into the rivers.

In 1908, Des Moines adopted the commission form of government. This consists of a council of five, including a mayor, who are elected by popular vote, with salaries sufficient for them to give all their time to city affairs. The use of the initiative, referendum and recall keeps the power of government in the hands of the people. The city has made rapid progress in many directions under this form of administration. Municipal expenses have been materially reduced; water, gas and lighting rates have been lowered; the streets and alleys have been cleaned, sewer connections extended, and the whole city put into what is usually termed a good sanitary condition.

TYPHOID RECORDS IN DES MOINES IMPERFECT

Des Moines is not recognized by the United States Census Bureau as a registration city. This is not a creditable circumstance for a city of such size and importance. Although public documents dealing with the street railway situation are numerous and complete, there has been practically nothing published in regard to the public health.

So far as can be ascertained, typhoid fever has existed for some time in Des Moines. In 1906, the only year for which published statistics are available, there were recorded eighteen deaths from this disease. On an estimated population of 77,000, this makes the death rate for that year, per 100,000 population, 23.4—a rate considerably higher than that of many American cities. The following statement by Whipple[1] is significant in this connection. "It is commonly assumed that in the northern parts of the United States a continued typhoid death-rate above 20 per 100,000 indicates that the public water supply is of questionable purity."

PRESENT OUTBREAK

The present outbreak of typhoid fever began about November 15 and has continued, although with some falling off, up to the present date. It is said to be of a very virulent type, thirteen deaths having occurred in five weeks. On December 5, 106 cases had been reported to the health authorities, and it is probable that many more existed, as physicians in Des Moines are not required to report typhoid cases. On this date there were reported to be ninety cases in the hospitals. An investigation of the known cases was made by the city physician, Dr. Sayler, and presented to the council. According to a published summary of this report, the cases were fairly evenly distributed over the city—seventy-two on the west side, twenty-two on the east, eight on the north (including Highland Park), and four on the south. Rarely was there reported more than one case in a house. This distribution corresponds approximately to that of the population. The cases were about equally divided between adults and minors; forty-one were school children or students, while the remainder were scattered among a great variety of occupations; ninety-eight had used city water, exclusively or at times; there were sewer connections in the houses of eighty; and twelve dairies were represented.

WATER SUPPLY

The water supply of Des Moines is controlled by a private company. In the report of the Health Department for 1906 a detailed description of the supply was made by Mr. Floyd Davis, at that time consulting chemist and sanitary engineer to the Water Works Company. This report, together with the facts obtained as a rule, that, if there is a good supply of milk of normal quality, supplementary feeding should commence at from four to six months, and nursing should not be entirely discontinued until from the tenth to the twelfth month. On the other hand, if a mother is determined not to nurse her baby at all, on account of her desire to enter actively into social life, or to avoid the trouble and inconvenience of lactation, the physician may propose, as a sort of compromise, that she should nurse the baby until the end of the third month, and then wean it. If she will do this, the infant will be carried over the period—the first three months of its life—during which artificial feeding is conducted with the greatest difficulty and the least success.

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[1] Typhoid Fever, John Wiley & Sons, New York, 1908, p. 230.

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In 1908, Des Moines adopted the commission form of government. This consists of a council of five, including a mayor, who are elected by popular vote, with salaries sufficient for them to give all their time to city affairs. The use of the initiative, referendum and recall keeps the power of government in the hands of the people. The city has made rapid progress in many directions under this form of administration. Municipal expenses have been materially reduced; water, gas and lighting rates have been lowered; the streets and alleys have been cleaned, sewer connections extended, and the whole city put into what is usually termed a good sanitary condition.

TYPHOID RECORDS IN DES MOINES IMPERFECT

Des Moines is not recognized by the United States Census Bureau as a registration city. This is not a creditable circumstance for a city of such size and importance. Although public documents dealing with the street railway situation are numerous and complete, there has been practically nothing published in regard to the public health.

So far as can be ascertained, typhoid fever has existed for some time in Des Moines. In 1906, the only year for which published statistics are available, there were recorded eighteen deaths from this disease. On an estimated population of 77,000, this makes the death rate for that year, per 100,000 population, 23.4—a rate considerably higher than that of many American cities. The following statement by Whipple[1] is significant in this connection. "It is commonly assumed that in the northern parts of the United States a continued typhoid death-rate above 20 per 100,000 indicates that the public water supply is of questionable purity."

PRESENT OUTBREAK

The present outbreak of typhoid fever began about November 15 and has continued, although with some falling off, up to the present date. It is said to be of a very virulent type, thirteen deaths having occurred in five weeks. On December 5, 106 cases had been reported to the health authorities, and it is probable that many more existed, as physicians in Des Moines are not required to report typhoid cases. On this date there were reported to be ninety cases in the hospitals. An investigation of the known cases was made by the city physician, Dr. Sayler, and presented to the council. According to a published summary of this report, the cases were fairly evenly distributed over the city—seventy-two on the west side, twenty-two on the east, eight on the north (including Highland Park), and four on the south. Rarely was there reported more than one case in a house. This distribution corresponds approximately to that of the population. The cases were about equally divided between adults and minors; forty-one were school children or students, while the remainder were scattered among a great variety of occupations; ninety-eight had used city water, exclusively or at times; there were sewer connections in the houses of eighty; and twelve dairies were represented.

WATER SUPPLY

The water supply of Des Moines is controlled by a private company. In the report of the Health Department for 1906 a detailed description of the supply was made by Mr. Floyd Davis, at that time consulting chemist and sanitary engineer to the Water Works Company. This report, together with the facts obtained from personal examination by your commissioner, is the basis for the following description. The water is taken from so-called filter galleries constructed parallel to the Raccoon River in the vicinity of the Eighteenth street viaduct (see diagram). No part of the supply is taken directly from the river. The principle involved in the use of filter galleries is that the ground water, which is continually flowing toward a river at some distance below the surface of the ground, should be intercepted, and collected for use. Ground water comes from rain water which in passing through the earth strikes an impervious layer, and runs off in the direction of the slope of the layer. Ground water is consequently filtered and of a high grade of purity for drinking purposes. Openings in the soil, however, are liable to be washed out so that the filtration is not perfect. Under these conditions house and privy drainage may run into the ground and pollute the ground water.

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[1] Typhoid Fever, John Wiley & Sons, New York, 1908, p. 230.

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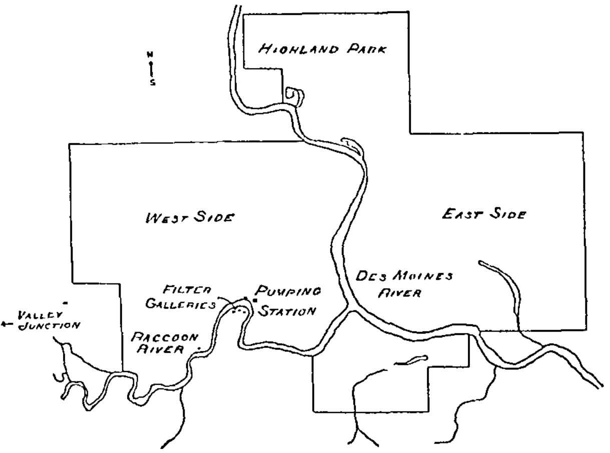

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From the statistics of 106 cases given above it will be noticed that nearly all patients had used city water prior to their illness. As this water is pretty generally distributed throughout the city this in itself would have little significance were it not for the fact that there has been practically no typhoid in Sevastopol, a suburb south of the city, where conditions are similar to those in Des Moines except that Des Moines water is used on only one street.

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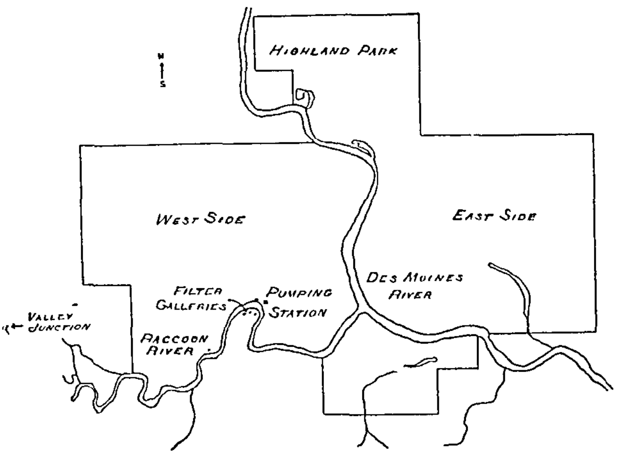

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[*For other information see second page following reading matter*]

SATURDAY, JANUARY 7, 1911

CANCER AMONG THE AMERICAN INDIANS

Statistical investigations play an important part in the study of cancer, and modern methods are just as necessary here as in any chemical or microscopic research; faulty methods of collection or interpretation have made most of the earlier statistics of little worth. A large part of the energies of the German Central Committee for Cancer Investigation has been spent on statistics in these its earliest years of existence, if we may judge by the titles of the papers in its official organ; and one of the first reports from the newly established George Crocker Research Fund for the investigation of cancer indicates that the authorities directing this great American donation to medical science have considered statistical investigations an important basis for cancer research. It is stated in an article on cancer among American Indians, by Levin[1] of New York, that in order to study the ethnologic distribution of cancer an investigation under the Crocker Fund was begun simultaneously in the Hawaiian Islands, the Philippine Islands, Porto Rico, the Isthmian Canal Zone, and among the American Indians of the United States. That different races suffer to different degrees from cancer is a well-established fact, the low incidence of cancer in our own negro population being generally recognized, while British physicians in the scattered territory of that empire have testified to the infrequency of cancer in most of the dark-skinned subjects of the British crown. In Ceylon, for example, there were reported in one year but 234 cases in a population of nearly four millions, making a ratio of six cases per hundred thousand, as contrasted with the usual rate of seventy to a hundred cases per hundred thousand observed in the various countries of Europe.

So far as the Crocker Fund investigation is concerned, results complete enough for drawing conclusions have so far been received from two sources, the Canal Zone and the American Indians, because of the governmental organization and control of the medical service of these two groups. In the Colon Hospital there have been but thirty-five cases of malignant neoplasm during five years, among 54,249 patients, a remarkably low figure which can probably be ascribed, at least in large part, to the fact that the population of the Canal Zone is three-quarters negro.

As to the American Indians, returns furnished by 107 of the 130 physicians of the Indian Field Service showed but twenty-nine cases of cancer observed in a population of 115,455 during a time of practice ranging from a few months to twenty years. Since these Indians are distributed all over the United States and in parts of the country where it is known that the white population presents the usual number of cancer cases, climate, geography and geology cannot be advanced as an explanation of the relative immunity of the aborigines to malignant disease. Whether race, habits or diet are responsible for the difference cannot be said. Levin seems inclined to accept the rather prevalent view that "it is the modern civilization and the conditions created by it that give rise to the mediate causes which produce the disease." This view, however, does not fit well with the fact that among one of the oldest, and commonly considered most decadent of civilizations, the Chinese, cancer is relatively rare. In the Chinese population of Hong Kong, for example, the cancer mortality averaged 4.45 cases per hundred thousand during a period when it stood at 71.0 in England. Furthermore, cancer is extremely common in some animals; in dogs, especially, cancer is said to be a more common cause of natural death than it is in man. Does this mean that the dogs are more civilized than the Chinese and Hindus, or are we to believe that the association of the dog with man causes the poor quadruped to acquire the cancerous proclivities of the higher civilization?

Another statistical study of cancer published in the same journal brings out a point in cancer etiology which will undoubtedly arouse much interest, namely, the relation of alcohol to cancer. As the outcome of an extensive study of the vital statistics of Bavaria by a special committee appointed for this purpose, it appears that cancer is distinctly most frequent among those whose trades render them most likely to indulge in alcoholic beverages; the highest incidence of cancer is found among those selling alcoholic liquors, a fact which has also been brought out in other countries by statistical inquiries as to the relation of occupation to cancer. If this is true it may be that the efforts of the government to keep Indians and fire-water apart, while sometimes eminently unsuccessful, have on the whole been able to prevent wide-spread habitual indulgence and thus to remove this possible factor in civilized cancer morbidity. If the relation between alcoholic habits and cancer is eventually shown to be one of cause and affect, temperance advocates will have an argument which probably will carry more weight with the average individual than any and all the excellent reasons for total abstinence which they can now command.

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[1] Levin, Isaac: Ztschr. f. Krebsforsch., 1910, ix, 422.

THE BIRTH-RATE AND RACIAL STABILITY

The significance for the race of small families and the reduction of the birth-rate constitutes a problem of intense practical interest, especially at present. Many maintain that the children of small families, because they are better cared for, really grow up into better men and women—that is, better for the race—than do the less carefully nurtured and educated children of large families. This, of course, is on the assumption that the children of small families are, on the average, at least as well endowed with vital qualities as the children of large families. The subject, however, is by no means on a satisfactory basis for the drawing of final conclusions.

At the last meeting of the British Medical Association, in the section of medical sociology, a symposium was held on the social aspects of falling birth-rate. One of the speakers, Dr. D. W. Hunter,[1] believes that the elder-born children of a family are more liable to suffer from defects than the younger ones—that is, up to a certain limit. As a consequence, if the race or family stock is recruited mainly from the elder-born children, there is an inevitable tendency toward racial degeneration. As has been shown by bionomic statistics, the earlier members of familes of seven or eight children are likely to be less stable in physical health, less resistive in vitality to disease, more prone to neurotic conditions and with less mental equilibrium than those of later birth in the family. Where large numbers are taken, the physical and mental health of the children seems to increase on the average up to the seventh or eighth child. The descendants of earlier-born children, according to Hunter, show much more tendency to defect than the offspring of parents who are younger members. A series of generations of elder children would be especially likely to emphasize the defects of the family stock, whatever they might be.

The observation which has been made that successive children of the same mother, to the eighth or ninth child, show an average increase in weight of one-half pound at the time of birth, lends further support to the findings of the differences in physical and mental stability of the earlier and later offspring. The heavier children are likely to have better development, to be in better condition to stand the trials of existence during the early months particularly, and as a consequence, while the development of the nervous system is being completed during the first six months of extra-uterine life, disturbing factors in the process are fewer and less serious. The reason for this may be that the mother of later children is likely to be at a more suitable age to give strength of body and store of vitality to her child than the mother of an earlier child. Somewhere about twenty-five Hunter considers that a woman is best fitted to give birth to her first-born. After twenty-five the capacity to bear a vigorous, healthy child at the first birth rapidly diminishes. With regular pregnancies the power to reproduce well steadily increases until the mother reaches thirty-five years of age.

From the fact that the earlier children in large families are inferior to those born later, Hunter infers that the children of small familes, in which, as he says, there are no later-born, must be inferior on the average to the children of large families. The theory is interesting and worthy of further investigation, but cannot be regarded as proved by Hunter's data. At least one factor in the superiority of the late-born children—apparently the chief factor, according to his own theory—is the more matured vitality of the mother. But early marriages are the rule among the races and classes that multiply most rapidly. Women who marry at twenty-four (in time to give birth to the first child at the age which Hunter considers the most favorable for that event) are found more frequently among the classes in which children are not produced so numerously. It would seem as fair to say that there are no early-born children of comparatively late marriages as to say that there are no late-born children. It is at least possible to conjecture that the production of many children by immature parents might have as unfavorable an effect on the stability of the race as the production of but few children by better-matured parents.

Then, again, the infantile death-rate tends to be high where the birth-rate is high. Hunter offers no data to show whether the younger or the older children of large families survive in larger numbers. Among the poor especially, it seems possible that the inevitable increase of neglect and privation to which, during the critical period of infancy, the later comers in large families are subject, may counterbalance, to some extent, their superior physical endowment, thus favoring the survival of the inferior early-born rather than of the superior late-born.

It is held by some, moreover, that births in too rapid succession may so exhaust the mother's forces as to enfeeble her offspring. It was suggested by Professor Moore,[2] a speaker in the discussion that followed the symposium, that some nations have disappeared as world powers by allowing excessively prolific reproduction to sap the vitality of the race.

The whole subject needs further investigation; but at present Hunter's assertion that "the limitation of the family to two or three children inevitably means a nation of idiots, and that within a few generations," certainly seems to exceed the limits of sober scientific deduction. There are, no doubt, a number of elements in the problem of the falling birth-rate which have not been fully considered so far. The capacity to care for a few children is evidently a favorable factor for the race, and capacity to endow them with vitality and health of body and mind is an even more important one. As yet, however, we have scarcely begun to accumulate the data required as a basis for any valid conclusions. These problems deserve careful study at the hand of physicians. Some very interesting statistics could surely be made by family practitioners of long experience, who have opportunities to see the differences between early and late-born children in large families, their relative chances of survival, and the comparative stamina possessed by children of late and early marriages, and of more and less prolific families.

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[1] Hunter, D. W.: Brit. Med. Jour., Aug. 20, 1910, p. 453.

[2] Moore, Benjamin: Brit. Med. Jour., Aug. 20, 1910, p. 454.

FATIGUE AND SUSCEPTIBILITY TO INFECTION

The influence of fatigue on the development and course of infectious diseases was recognized long before the real nature of infection was known. There has existed a general belief, founded on observation during epidemics of plague and cholera, that physical or mental exhaustion rendered the organism more susceptible to the disease. In the writings of some of the earlier veterinarians we find statements that overexertion can cause glanders or anthrax in horses and cattle. The literature of the later part of the nineteenth century after the study of infectious processes had been put on a sound basis, abounds in clinical observations on the influence of fatigue in many diseases of microbic origin, such as pyemia, osteomyelitis, infective endocarditis and myocarditis, typhus, tuberculosis and influenza. In typhoid fever above all, fatigue plays an important rôle as a predisposing cause of infection; according to Roger it is more important than any other cause. Thus military surgeons note again and again that though soldiers while in garrison may be free from typhoid fever, they are liable to develop it as soon as they have undergone the strain of the maneuvers, although they are stationed in villages where there is no typhoid.

In 1890, twenty years ago, Charrin and Roger published their classical work on the breakdown of resistance to infection following physical exhaustion, a work which has until very recently remained the last word on this subject. They experimented on white rats, using the bacillus of anthrax and of symptomatic anthrax. The experimental animals were first made to run in a squirrel's cage for several hours till thoroughly tired, and were then injected, control rats being injected with an equal dose. Charrin and Roger found that the fatigued rats succumbed to the infection earlier than the non-fatigued, and that in some cases the latter survived a dose which killed the former in less than twenty-four hours. In one experiment five control rats, inoculated with the virus of symptomatic anthrax, survived, while all of the six fatigued rats, inoculated with the same amount, died, three of them in less than twenty-four hours.

These authors did not attempt to show what changes in the fatigued animals underlay this breakdown of resistance to infection, nor would it have been possible to do this twenty years ago with anything like the completeness which recent advances in the study of immunity have made possible. This next step has been taken by De Sandro,[1] working in Ferranini's clinic of industrial diseases in the University of Naples.

De Sandro repeated the work of Charrin and Roger, using, however, as his subjects dogs, rabbits and guinea-pigs, and for injection typhoid toxin. He has succeeded not only in confirming their results but in demonstrating some of the changes which take place as a result of fatigue and which seem to explain the loss of resistance to infection. He brought about fatigue in his animals by means of faradization, carried to the point of rapid contractions but without causing pain or extreme terror. Each series of animals experimented on consisted of *four classes, Class 1 containing those which* were fatigued by faradization each day for five to seven days before injection; Class 2 those which were fatigued just prior to injection and then daily after injection; Class 3 those which received the injection in a normal state and were then fatigued occasionally at intervals of several days; and Class 4 those injected and left at rest, the controls. After ten days the animals, if living, were given a second dose.

The task which De Sandro set himself was to ascertain *the effect of overexertion, fatigue, on the duration* of life, the body weight, the temperature, the character and number of leukocytes, the formation of agglutinin, opsonin, precipitin, antitoxin, antiendotoxin and bactericidin. On the last five substances his experiments are not very satisfactory and could hardly be regarded as conclusive, although the results obtained are significant enough to encourage further exploration into these fields. A brief review of the remainder of his work will show that he has been able to demonstrate very decided *changes in the mechanism of resistance as a result of* overfatigue.

All the animals which were subjected to fatigue died sooner than the controls, death coming more quickly in those which received the first injection in a state of exhaustion than in those which were exhausted only after injection.

Loss of weight was greatest in those animals which were fatigued repeatedly before injection. Thus one guinea-pig lost 245 gm., while the control lost only 105 gm.; one dog lost 1,500 gm., while the control lost only 200 gm.

In all the injected animals, fatigued and at rest, injection of typhoid toxin was followed by typical changes in the leukocyte count, namely, an immediate leukopenia, followed by a leukocytosis and then a return to the normal count. The polynuclears were first increased at the expense of the mononuclears, which later rose in number as the polynuclears fell, this being due to the increase in large mononuclears especially. In comparing the changes in the fatigued with those in the non-fatigued animals decided differences were observed, which point to the importance of the mononuclear leukocytes in the defense of the body against infection as well as the polynuclear phagocytes. These differences may be summarized as follows: First, the leukopenia following injection was more pronounced in the fatigued animals than in the controls, being most pronounced in animals of Class 1. Second, the subsequent polynucleosis was later by several hours, was less intense and persistent, these differences also being most pronounced in animals of Class 1. Third, the mononucleosis appeared later, was less intense and less lasting in the fatigued animals. Fourth, while the second injection of toxin in the control animals caused only a slight leukopenia, in the fatigued animals it caused a very decided leukopenia, with only a slight subsequent increase in polynuclears and in mononuclears.

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[1] De Sandro, Domenico: Riforma Med., 1910, xxxv, 841, 871. Briefly noted in The Journal, Sept. 17, 1910, page 1064.

The results of De Sandro's observations on agglutinin formation as affected by fatigue are also very interesting. He found that the slight agglutinative power of all the serums disappeared after the first injection (negative phase). The serum of the control animals began to exhibit agglutinative power by the third to the fifth day, that of the fatigued animals not till the fifth to the eighth day, animals of Class 1 being always slowest to respond. All the control animals exceeded the fatigued in the amount of agglutinin formed.

De Sandro concludes that overfatigue favors greatly the development of infectious processes by its effect on the mechanism of defense of the body. It is to be hoped that this interesting study will stimulate research into the influence of fatigue on the formation of opsonin, bactericidal substances, etc.

DEATHS OF PHYSICIANS IN 1910

During 1910, the deaths of 2,324 physicians in the United States and the Dominion of Canada were noted in THE JOURNAL. Reckoning on a conservative estimate of 137,000 physicians, this is equivalent to an annual death rate of 16.96 per 1,000. For the eight previous years the death rates were as follows: 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73 and 1902, 14.74. The average annual mortality for the period from 1902 to 1910, inclusive, was therefore 16.21 per 1.000. The age at death varied from 22 to 97, with an average of 59 years, 11 months and 4 days. The general average since 1902 is 59 years, 5 months and 28 days. The number of years of practice varied from 1 to 72, the average being 32 years, 8 months and 9 days. The general average for the past six years is 31 years, 5 months and 29 days. The chief death causes in the order named were "heart disease," cerebral hemorrhage, pneumonia, violence and nephritis.

CAUSES OF DEATH.—There were 335 deaths assigned to general diseases; 378 each to diseases of the nervous and circulatory systems; 231 to diseases of the respiratory system; 144 to diseases of the digestive system; 220 to diseases of the genito-urinary system; 172 to violence; 123 to senility; and 15 to unknown or vaguely described diseases. Among the principal assigned causes of death were "heart disease," 245; cerebral hemorrhage, 242; pneumonia, 193; nephritis, 166; senility, 123; accidents, 114; tuberculosis, 92; malignant disease, 77; after surgical operations, 71; angina pectoris, 57; paralysis and suicide, each 48; septicemia, 38; arteriosclerosis, 34; diabetes, 32; "uremia," 31; typhoid fever, 30; appendicitis, 25; gastritis, 22; anemia, 18; paresis, 17; myocarditis, 14; cirrhosis of liver, 13; cholelithiasis, 12; influenza, erysipelas, meningitis and intestinal obstruction, each, 11; homicide and insanity, each 10; rheumatism and gastric ulcer, each 9; locomotor ataxia and peritonitis, each 8; endocarditis and prostatitis, each 7; paralysis agitans, 6; aneurysm and pleurisy, each 5; dysentery, 4; tetanus, alcoholism and drug addiction, epilepsy, neuritis and pericarditis, each 3; typhus fever, anterior poliomyelitis, small-pox, scarlet fever, diphtheria, pellagra and gangrene, each 2; and yellow fever and Asiatic cholera, each 1.

The causes assigned for the 114 deaths from accident were railway casualties, 24; automobiles, 17; falls and poisons, each 15; horses and vehicles, 10; drowning, 7; fractures, 5; burns and exposure, each 4; ptomain poison, 3; sunstroke, gunshot wounds and asphyxia, each 2, and *x*-ray burns, poisonous gases and mines, each 1. The 48 physicians who ended their lives by suicide selected the following methods: firearms, 22; poison, 18; cutting instruments and strangulation, each 3; and asphyxia and drowning, each 1. All of the 10 homicides were due to gunshot wounds, and of these 3 occurred in feuds or affrays.

AGES.—Of the decedents 30 were between the ages of 91 and 97; 214, between 81 and 90; 456, between 71 and 80; 497, between 61 and 70; 434, between 51 and 60; 323, between 41 and 50; 235, between 31 and 40; and 83, between 22 and 30. The greatest mortality occurred at the age of 65, when 60 deaths were recorded; at 69 and 70, when 59 deaths occurred, at 72, when 57 died. There was 1 death each at 92, 94 and 97 years of age; 2 at 22; 4 at 96 and 5 each at 90 and 93.

YEARS OF PRACTICE.—By periods of ten years the deaths were as follows: in the first decade, 237; second decade, 338; third decade, 469; fourth decade, 497; fifth decade, 395; sixth decade, 275; seventh decade, 71; and eighth decade, 1, who had been in practice for 72 years.

MILITARY SERVICE.—During the year 397 died who had served in the Civil War, and of these 107 were with the Confederate cause, and 152 were surgeons of United States Volunteers. There were 12 veterans of the Mexican War; 3, of the various early conflicts with Indians on the frontier; 32 had served in the Spanish-American War and 13 in foreign wars. The Army lost 23 officers, past and present; and in addition, 2 members of the Medical Reserve Corps, and 22 acting assistant surgeons; the Navy, 19; and the Public Health and Marine-Hospital Service, 9. The death loss of the Organized Militia was 35, of whom 6 had attained the grade of surgeon-general.

MEDICAL POSITIONS.—Medical colleges sustained the loss of 138 professors, lecturers, instructors and demonstrators during the year; hospitals lost 326 members of staffs; municipalities, townships and counties, 201 health officers or physicians; and boards of education and school boards, 91 members. There were 45 deaths of members of state boards of health and medical registration and examination; 49 of coroners and medical examiners; 87 of United States pension examining surgeons; and 118 of railway surgeons.

Of those who died, 3 had served in the House of Representatives of the United States; 15 had been members of state senates; 57 members of lower houses; 58 had been mayors; 39, aldermen or councilmen; 58 had served as justices of the peace or other civil officers; 19 as postmasters; 21 as editors; 13 were clergymen, of whom 2 were medical missionaries; 5 were attorneys; 4 were consuls, and 8 had been medical directors of life insurance companies.

THE NOTABLE DEAD.—Among the more prominent dead of the year are:

Sarah Read Adamson Dolley, Elizabeth Blackwell and Emily Blackwell, pioneer women physicians of America.

Wharton Sinkler, Philadelphia, neurologist.

Fred Byron Robinson, Chicago, anatomist and research worker.

Edward Champe Carter, U. S. Army, health commissioner of Manila and member of the Opium Commission.

Howard Taylor Ricketts, Chicago, research investigator, a martyr to science.

Herbert Leslie Burrell, Boston, ex-president American Medical Association, surgeon, educator.

Henry Granger Piffard, New York City, specialist on diseases of the skin and genito-urinary system.

Alexander Johnson Stone, St. Paul, surgeon-general of Minnesota, surgeon and gynecologist.

William James, Cambridge, Mass., psychologist and psychic research worker.

James Nevins Hyde, Chicago, specialist on skin and venereal diseases.

Carey Kennedy Fleming, Denver, gynecologist.

DeForest Willard, Philadelphia, orthopedic surgeon.

John Veitch Shoemaker, therapeutist, former surgeon-general of Pennsylvania.

Carl Svantè Nicanor Hallberg, Chicago, pharmaceutical publicist, editor and teacher.

Frederick Holme Wiggin, New York City, prominent in state organization.

Nathaniel Pendleton Dandridge, Cincinnati, surgeon and teacher.

Landon Brame Edwards, Richmond, Va., sanitarian, editor and teacher.

Christian Archibald Herter, New York City, investigator and chemical pathologist.

John Cummings Munro, Boston, surgeon and clinician.

CLEAN MILK PRODUCTION

It is well known that milk is commonly produced under conditions that are less hygienic and cleanly than those under which any other food article or beverage is produced.[1] Credit for recent improvement in this respect is due in part at least to the activity of milk commissions, who make contracts with milk-producers to produce milk for infants and invalids under certain prescribed conditions and who in turn have their milk certified. The amount of certified milk produced is but a small fraction of the total supply, but in spite of this the moral influence of milk commissions has been a large factor in bringing about an improved general supply.

It has been demonstrated that milk produced under rigorous conditions of cleanliness and care, coupled with prompt cooling, will keep sweet for a long time. This is explained by the fact that milk decomposes only when germs are present, and with the production of milk with a low bacterial content the keeping qualities are enhanced proportionally, especially when kept at a temperature below 40 F. Heinemann says that unfortunately heretofore certified milk has been produced at little or no profit, chiefly because of lack of demand and the higher price charged for it. It is generally marketed by dairies with considerable capital and occasionally from philanthropic motives, so that it is a belief among the ordinary producers that only a rich man or a crank will attempt to produce it. He believes that this is a misconception; that clean milk can be produced advantageously, and that even certified milk can be produced with a small outlay of money. He cites the instance of a dairy in Wisconsin which markets in Chicago, 100 miles away, milk with a bacterial content of less than 2,000 bacteria per cubic centimeter—in many instances less than 1,000—which returns a fair profit on the investment with milk at six cents a quart in bottles at the farm. This dairy has only thirty cows and produces 250 quarts of milk a day. It has been fitted up with the equipment and supplies of a modern sanitary dairy—cement floors, stalls and stanchions, water-supply, washing and sterilizing machines, bottling machine, bottles, cooling apparatus, pails, cans, etc.—for less than $1,650. There is abundant light and ventilation in the stables, and every detail of clean milk production is carried out rigorously.

Dr. Heinemann believes that this example forms a justifiable basis for the assumption that certified milk can be produced with a small investment at a profit if the owner or superintendent will look after each detail with proper care and intelligence, and that for the production of a milk of exceptional cleanliness and quality, even if not up to the standard of certified milk, a much smaller investment than the estimate given would be sufficient. On account of the interest aroused by sanitarians and scientists in this subject, the public will soon demand of all milk-producers milk of this standard.

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[1] Heinemann, P. G.: Hoard's Dairyman, Nov. 18, 1910.

Current Comment

INDEX IN THE TWENTY-SEVENTH NUMBER

The last half of 1910 contained twenty-seven Saturdays. The last volume of The Journal, therefore, contained twenty-seven issues. As a result, our readers have received more than the usual amount of good reading, if we may be permitted to say so. Another result—one which we had not anticipated—is the receipt of a number of letters similar to the following, quoted from one: "As I failed to receive the index which has always accompanied the twenty-sixth number of each volume of The Journal, and as I value my files very highly and am anxious that all my bound volumes shall be complete, I trust you will pardon me for inquiring whether it was an oversight in my case or whether the index has been omitted from this volume." Of course, by this time, all of these valued readers have had their anxiety allayed by the arrival of the twenty-seventh issue—that of Dec. 31, 1910. We are not altogether sorry over their temporary disappointment, because it has served to bring a number of appreciative letters on the value of the index.

A CITY'S LIABILITY FOR TYPHOID FEVER

An interesting decision on the question of the liability of a municipality for typhoid infection through defective water supply is abstracted in our Medicolegal Department in this issue. This is a most important and far-reaching decision; we hope to comment on it editorially next week.

THE COMMISSION EVIL

The secret division of fees between surgeons and family physicians has recently given rise to considerable sensational discussion in the newspapers. From the degree of surprise manifested in these articles, one might be led to believe that the existence of this evil in the profession has not heretofore been suspected by the public. If this is true, it is because the frequent warnings of physicians on this point, in both medical meetings and medical journals, have been ignored. The records of the American Medical Association, as well as those of many other medical organizations, will show that the payment of commissions for patients —for that is what the division of fees practically amounts to—has been repeatedly and unsparingly condemned. Since the regulation of the acts of individual members lies with the local society, rather than with the state or national organization, this question must necessarily be dealt with by county societies, many of which have denounced this practice in the past, as, from time to time, we have had occasion to note. This week we present the report of a special committee of the Erie County (N. Y.) Medical Society[1] on this subject. This committee was appointed nearly a year ago and has made a long and careful investigation of conditions. Its report, therefore, may be regarded as one worthy of notice, and for this reason we are glad to reproduce it. This committee has taken up the question calmly but fearlessly, as should be done by every county society in which there is a suspicion of the existence of this evil. The full light of publicity, not only professional but general, should be turned on all those who adopt such methods.

NOT MORE BUT BETTER-EQUIPPED MEDICAL COLLEGES NEEDED

Attention has repeatedly been called in these columns to the superabundance of medical colleges in this country and also to the general need for those which were better equipped, better conducted and better financed. Many improvements in this respect have been brought about by the merging of two or more colleges, thereby forming in each instance one college, which was invariably stronger and better equipped. Improvements by this process of merger are still being rapidly brought about. During the last year twelve colleges merged their interests, whereby six better-equipped and stronger colleges resulted. Two of these mergers were in Chicago. But the possibilities of obtaining better colleges by the merger of weaker ones are still numerous and could be brought about without a serious reduction in the number of colleges. The merger of two or more of the medical schools in Chicago or in other localities is probably the most important step that could be taken in the solution of the local educational problem. It is hoped, therefore, that reports of actual accomplishment will follow the rumors which come to us of proposed mergers in several places.

THE USE OF ULTRAVIOLET RAYS FOR STERILIZING WATER

The germicidal action of light, particularly the ultraviolet rays, on bacteria has long been known and has been already to some degree practically utilized. One of the latest applications is the exposure of polluted water to the ultraviolet rays from a quartz-tube mercury-arc lamp of the "Westinghouse-silica" type. The method is based on experiments carried out in Paris in the laboratories of the Sorbonne. Its bactericidal efficiency has been demonstrated by repeated tests on water containing large numbers of *Bacillus coli* and other microorganisms. The apparatus employed is very simple, consisting essentially of a trough or box provided with baffle-plates through which the water is run in close proximity to one or more of the sterilizing lamps. It is necessary, of course, to clarify a turbid water before treatment to insure adequate penetration. An ultraviolet ray plant has recently been installed as the result of a competitive test at Marseilles, France, a city long scourged with typhoid fever. The cost of this mode of sterilization is said to compare favorably with that of the ozone process.

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[1] Department of Medical Economics, page 59.

AN AMERICAN CONGRESS ON MEDICAL EDUCATION

During the week of February 27 to March 4, 1911, several organizations interested in medical education and medical licensure will meet in Chicago. The Council on Medical Education and the National Legislative Council of the American Medical Association will hold their second joint conference March 1 to 3; the Association of American Medical Colleges holds its session February 27 and 28 and the National Confederation of State Medical Examining and Licensing Boards meets February 28. Since these organizations are all working toward the same end it is indeed encouraging to know that they are thus getting closer together. Working in harmony, they can exert most effective influence for good.

Medical News

ALABAMA

Personal.—Dr. E. Marion Mason, Montgomery, resigned as state [illegible] hologist, December 1, and has moved [illegible] Robert Nelson was elected president o[illegible] d Association of the Birmingham Health Department at the annual meeting, December 16.

Society Meetings.—At a meeting of the Calhoun County Medical Society at Anniston, December 6, Dr. B. Dudley Williams, Oxford, was elected president; Dr. Erastus T. Barker, McFall, vice-president; Dr. Irwin P. Levi, Anniston, secretary for three years; Dr. Edmunds C. Anderson, Anniston, treasurer for three years; Dr. Robert L. Hughes, Choccolocco, county health officer for two years; Dr. William Y. White, Anniston, city health officer for two years, and Dr. William H. Kinnebrew, Piedmont, censor for five years.——At the annual meeting of Jefferson County Medical Society, held in Birmingham, December 5, Dr. James S. McLester, Birmingham, was elected president; Dr. Sidney H. Mann, Ensley, vice-president; Dr. Henry N. Rosser, Birmingham, county health officer for two years; Dr. Robert H. Hamerick, Birmingham, county physician; Dr. George Stubbins, assistant county physician; and Dr. Frank A. Lupton, Birmingham, censor for five years (reelected).

ARIZONA

Examination of School Children.—The first systematic medical examination of school children in Arizona has been inaugurated in Bisbee. The pupils of all schools of the district will be given thorough medical examination by the city health officers.

New Chief Surgeon.—Dr. Winfred Wylie, Phoenix, has been made chief surgeon of the Arizona Eastern Railway lines, vice Dr. George E. Goodfellow, Tucson, deceased. The headquarters of the chief surgeon will be moved at once from Tucson to Phoenix.

Medical Society Organized.—At a meeting for organization of the medical fraternity of Gila County, at Globe, recently, the Gila County Medical Society was organized. Dr. John Bacon, Miami, was elected president; Dr. Roderick D. Kennedy, Globe, vice-president; and Dr. John L. Wales, Globe, secretary-treasurer. Dr. Joseph N. McCormack, Bowling Green, Ky., was present, and addressed the meeting.

CALIFORNIA

Plague Prevention.—During the week ended November 12, 1,450 acres of land in Contra Costa County were covered with poison, the work being done in connection with making a squirrel-free zone around the cities on San Francisco Bay.

Personal.—Dr. George M. Bumgarner, Bakersfield, has been appointed health officer of Kern County, vice Dr. William S. Fowler, removed to Los Angeles.——Dr. Charles E. Stone, Marysville, superintendent of the Yuba County Hospital, is reported to be critically ill.——Dr. Edmund O. Sawyer has been appointed health officer of Los Angeles County, vice Dr. Owen R. Stafford, term expired.

Tuberculosis Notes.—Eight citizens of Riverside have given $100 each to start a sanatorium at the foot of Box Springs Mountains for persons afflicted with tuberculosis.——The Free Clinic for Tuberculosis Patients has leased new quarters at 527 Seventeenth St., Oakland, and the new clinic was opened for patients December 6. The offices of the Alameda County Society for the Study and Prevention of Tuberculosis will also be moved to the new location.

Illegal Practice.—Lee Tie Bong, a Chinaman, was found guilty of practicing medicine without a license in San Francisco and fined $100.—Chan Toa, who advertised himself as a doctor, was fined $100 for practicing medicine without a license.——F. J. Lewzy, Mrs. May White and J. J. Leek, prosecuted by the California State Medical Board, and charged with the illegal practice of medicine, are said to have been found guilty and sentenced to pay a fine of $100 each.

County Societies Elect.—At the annual meeting of Sonoma County Medical Society, held in Santa Rosa, December 5, the following officers were elected: resident, Dr. J. Walter Seawell, Healdsburg; vice-president, Dr. Reuben M. Bonar, Santa Rosa; secretary, Dr. Jackson Temple, Santa Rosa; treasurer, Dr. Fredd O. Pryor, Santa Rosa; and censor, Dr. Joseph W. Seamell, Windsor.——San Mateo County Medical Society, at its annual meeting in Belmont, elected the following officers: president, Dr. Franklin M. Seibert, San Mateo; vice-presidents, Drs. Archibald L. Offield, Burlingame, and Charles F. McCarthy, San Mateo; and secretary-treasurer, Dr. Wood C. Baker, San Mateo.

GEORGIA

Students Contribute to Fund for Alma Mater.—The student body of the Medical College of Georgia, Augusta, has made a contribution of $1,620 toward the fund which is being raised for the improvement of the institution.

Small-Pox Epidemic Subsides.—The epidemic of small-pox in Coweta and Meriweather Counties along the lines of the A. B. and A. Railroad has practically ended, thanks to the painstaking labors of Drs. Andrew J. Mann, Alvaton; William P. Ellis, Oakland, and Robert B. Gilbert, Greenville, county health officer, with the cooperation of the local authorities.

New Society Officers.—At the annual meeting of the Eleventh District Medical Society, held recently in Valdosta, the following officers were elected: president, Dr. Alexander G. Little, Valdosta; vice-president, Dr. Henry C. Whelchel, Douglas, and secretary-treasurer, Dr. William E. Miller, Eastman. The next meeting will be held in Eastman in June, 1911. ——The South Georgia Medical Association held its annual meeting in Cordele, December 7, and elected the following officers: president, Dr. Arthur R. Heyward, Warwick; vice-president, Dr. J. S. McKenzie, Cordele, and secretary-treasurer, Dr. T. E. Bradley, Cordele (reelected).——Bartow County Medical Society, at its annual meeting in Cartersville, December 14, elected the following officers: president, Dr. Robert I. Battle, Cartersville; vice-president, Dr. Tanner Lowry, Euharlee; secretary-treasurer, Dr. Howard E. Felton, Cartersville; censors, Dr. Alfred B. Greene and Alfred T. Calhoun, both of Cartersville, and delegates to the state society, Drs. Alfred B. Greene, Cartersville, and Ward Redwine, Cassville.——Fulton County Medical Society, at its annual meeting, December 15, elected the following officers: president, Dr. Edgar G. Ballenger; vice-president, Dr. L. Benjamin Clarke; secretary, Dr. Richard R. Daly (reelected); treasurer, Dr. Arnold H. Lindorme (reelected); and censor, Dr. Frederick G. Hodgson, all of Atlanta.

ILLINOIS

Personal.—According to the *Bulletin of the Illinois State Board of Health* for December, there are six physicians in the Forty-Seventh General Assembly: Drs. John H. Gray, Morrison, and James A. Womack, Equality, in the Senate, and Drs. James M. Bell, Rochester; I. N. Martin, LaHarpe; W. E. Stedman, Sullivan; and Hall Whiteaker, Mound City, in the House of Representatives.——Dr. J. H. Bacon, Peoria, was operated on for appendicitis at the Proctor Hospital, December 29, and is recovering nicely.

INDIANA

Ill and Injured.—Dr. W. W. P. McMillen, Decatur, slipped on an icy pavement, December 20, breaking his left arm.——Dr. R. W. Hurt, Indianapolis, fell December 3, fracturing his right leg.——Dr. Charles M. Coggins, Coal Creek, who has been seriously ill, is reported to be convalescent.——Dr. John H. Rerick, LaGrange, who has been seriously ill, is reported to be convalescent.

Pure Food Law in Indiana.—The enforcement of the pure food law in Indiana was much in evidence last week. In Indianapolis tests made in the food and drug laboratory of the State Board of Health, of several prepared breakfast foods of different brands, showed that packages marked 1 pound net contained only 10 ounces. A grocer in Indianapolis was arrested for adding water to oysters which he sold. In Terre Haute 10,000 bottles of tomato catsup from one establishment and 6,000 bottles and 340 gallon jugs from another establishment were seized. This catsup contained decomposed vegetable matter, and is said to have been made by a Cincinnati firm from refuse of canning factories.

Personal.—Dr. Thomas L. Taylor, Indianapolis, has been appointed house physician at the Indiana School for Feeble-Minded Youth.——Dr. E. E. Dougherty, a member of the staff of the Indianapolis City Dispensary, has resigned, under the new rule of the city board of health that no intern at the dispensary can be employed in any other capacity, and has been succeeded by Dr. John C. Irwin, Frankfort, Ind.——Dr. Hugh M. Hall, Camden, suffered the loss of his home and office in a fire, December 17.——Dr. Kent K. Wheelock, Fort Wayne, has returned from Europe.——Dr. Asa W. Brown, Bluffton, has been appointed secretary of the Wells County Board of Health, vice Dr. Louis Severin, Bluffton, resigned.——Dr. William A. Wildman has been appointed a member of the pension board of Butlerville, vice Dr. Green, deceased.

Preliminary Medical Curriculum.—President W. A. Mills of Hanover College; President Francis J. McConnell, DePauw University; Vice-President O. P. Kinsey, Valparaiso University; Prof. Stanley Coulter, Purdue University; Acting Vice-President M. E. Crowell, Franklin College; Dean M. B. Thomas, Wabash College; Dr. R. E. Lyons, Indiana University; and Vice-President T. A. Crumley, University of Notre Dame, met with the State Board of Health at Indianapolis, December 22, to establish a preliminary medical curriculum for the various state institutions. The regular amount of entrance work suggested was at least eighteen college months and should presuppose fourteen units of training in high schools or other preparatory institutions. The designation of special studies was referred to a committee for decision. The uniformity of courses offered by Indiana commissioned high schools was approved.

Society Meetings.—At the annual meeting of the Lake County Medical Association, held in Hammond, December 8, Dr. Edward E. Evans, Gary, was elected president; Dr. George W. Miller, Hammond, vice-president; Dr. Charles A. DeLong, Gary, secretary; Dr. George E. Miller, East Chicago, censor; and Dr. William F. Howat, Hammond, delegate to the state society.——The Fort Wayne Academy of Medicine held its annual meeting, December 9, and elected the following officers: president, Dr. Cecil C. Kimmel; vice-president, Dr. Homer E. Glock; secretary, Dr. Irvin W. Ditton; treasurer, Dr. Alfred L. S. Kane; and censors, Drs. John E. McArdle, Willis W. Carey and Allen Hamilton.——Laporte County Medical Association, at its annual meeting, December 9, elected Dr. Jesse B. Rogers, Michigan City, president; Dr. John N. Kelly, Westville, vice-president; Dr. George R. Osborn, Laporte, secretary and delegate to the state society; Dr. Edward G. Blinks, Michigan City, treasurer, and Dr. Benjamin W. Hollenbeck, Westville, censor.——Dearborn County Medical Society, at its annual meeting in Lawrenceburg, December 20, elected Dr. Jesse L. McElroy, Aurora, president; Dr. George W. Hansell, Guilford, vice-president; Dr. Orville S. Jaquith, Lawrenceburg, secretary; and Dr. Arthur T. Fagaly, Lawrenceburg, treasurer.

KANSAS

County Society Meeting.—The Republic County Medical Society met in Belleville, November 17, and elected Dr. William Kamp, Belleville, president; Dr. John B. Henry, Scandia, vice-president, and Dr. Jay C. Decker, Belleville, secretary.

Personal.—Dr. Allen W. Dortch, Arkansas City, was painfully injured in a runaway accident, December 5.——Dr. Josaphyne R. E. Davis, Ottawa, is reported to be critically ill in University Hospital, Kansas City, with septicemia due to an operation wound.

To Remain at Rosedale.—The regents of the University of Kansas are reported to have decided to retain the medical school property at Rosedale. The reorganization contemplates the establishing of a teaching hospital in Kansas City, Kansas, and the employment on salaries of additional capable instructors. Dr. Samuel J. Crumbine, Topeka, Secretary of the Kansas State Board of Health, has been elected dean.

Alumni Organize.—At the annual meeting of the Alumni Association of the Medical School of the University of Kansas, held recently, the following officers were elected: president, Dr. George M. Gray, Kansas City, Kan.; vice-president, Dr. Marion Trueheart, Sterling, Kan.; secretary, Dr. Harold P. Kuhn, Kansas City, Mo.; and executive committee, Drs. Clifford C. Nesselrode, Kansas City, Kan., and Logan Clendening, Kansas City, Mo.

MARYLAND

Limit Professors' Salaries.—The authorities of the University of Maryland have limited the salary of medical professors to $1,500 per annum.

Personal.—Dr. Augustine S. Mason, Hagerstown, is reported to be critically ill.——Dr. Frederick Taylor, Baltimore, is in University Hospital, suffering from fractured ribs as the result of a fall on the ice.——Dr. Howard A. Kelly, Baltimore, has gone to Mexico for a month.

For the Colored Insane.—The board of managers of the State Hospital for Colored Insane has purchased 561 acres of land near Crownville, Anne Arundel County, as a site for that institution. The remainder of the legislative appropriation will be employed in the erection of the necessary buildings.

Bequests.—By the will of Miss Ada George, the Nursery and Child's Hospital, and the Church Home and Infirmary, Baltimore, each receives bequests of $1,000.——The late Edgar G. Miller left $2,000 to the Baltimore Eye, Ear and Throat Charity Hospital.——Hebrew Hospital has been bequeathed $1,000 by the will of the late Joseph Fredenwald.

Medical Society Meeting.—Dorchester County Medical Society met i [illegible] adopted a new constitution, and [illegible] ers: president, Dr. C. Frank Magui [illegible], Dr. Edward L. Jones, East New Market; secretary-treasurer, Dr. William H. Houston, Fishing Creek, and censors, Drs. John Mace, Cambridge, E. A. Jones and Joseph K. Shriver, Jr., Taylor's Island.

MICHIGAN

Lapeer Quarantine Temporarily Raised.—The quarantine against the Michigan Home for the Feeble Minded, Lapeer, was raised December 22, as there have been no new cases of small-pox in the institution in four weeks. The expense of the state troops on duty at the institution as a quarantine guard amounts to $5,373. On December 28, the institution was again placed in quarantine on account of the occurrence of another case of small-pox.

Academy Election.—At the annual meeting of the Kalamazoo Academy of Medicine, held December 13, the following officers were elected: president, Dr. John H. Crosby, Otsego; vice-presidents, Drs. H. L. Stewart and Lemuel E. Clark, Otsego, and Francis C. Penoyer, South Haven; secretary-treasurer, Dr. Charles E. Boys, Kalamazoo; censors, Drs. Adolph Hochstein, Edward P. Wilbur and George F. Inch, Kalamazoo; librarian, Dr. Edward J. Bernstein, Kalamazoo; delegates to the state society, Drs. Wilbur F. Hoyt, Paw Paw, and William A. Stone, Kalamazoo; and alternates, Drs. J. Charles Maxwell, Paw Paw, and John B. Jackson, Kalamazoo.

Deaths of Children in Detroit.—An investigation of the alleged incorrectness of the recent statement of the Census Bureau, of the proportion of deaths of infants in Detroit, as published in the official bulletin on mortality statistics for 1909, has been made by Dr. Cressy L. Wilbur, chief statistician of the bureau, acting in conjunction with the representatives of the secretary of state of Michigan. Subsequent to the issuance of the bulletin, the Detroit health authorities claimed that only 20 per cent. of the deaths at all ages in 1909 was of infants under 1 year, notwithstanding the fact that the census compilation gave a ratio of 29 per cent. Some local papers and the city health authorities of Detroit insisted that the bureau's figures were incorrect and injurious. After a thorough inquiry, Dr. Wilbur reports that the Detroit health authorities now admit that the census figures are correct, and that errors in the local compilation made it appear that 20 per cent. was the proper proportion. The health officer of Detroit has undertaken to reform the system in his office so that results hereafter will be strictly comparable with those of the Census Bureau.

NEW YORK

New York City

Sale of Red Cross Seals.—The manager for the sale of the Red Cross seals throughout the state reports that the sales outside of New York City and Buffalo will amount to at least $75,000, which is three times the amount of the sales of last year.

Drink Wood Alcohol.—It is reported from Kingston, N. Y., that wood-alcohol drinking has reached such proportions among the laborers on the New York Aqueduct that several deaths and numerous cases of severe illness have occurred. Efforts will be made to educate the men in regard to the dangers of this drug.

Label Milk for Infants.—A set of resolutions drawn up at the milk conference held on December 2 and 3 states that of the 16,000 babies that die annually in New York city, 4,000 are killed by bad milk and improper food, and that the most important problem connected with securing safe milk for infants is that of securing the proper labeling of milk so that mothers will know what is safe.

Would Make Vaccination Optional.—A complaint was recently brought against a resident of Staten Island charging him with violating the compulsory education law because he kept his children from school rather than submit them to vaccination. The case was decided in favor of the defendant and it is rumored that it will be made the basis of a campaign against compulsory vaccination. It is planned to make a demand that the Board of Education establish five schools, one in each borough, where vaccination may be optional according to the inclinations or beliefs of the parents. The bill providing that vaccination be made optional which was defeated at the last session of the legislature will be presented at the next session.

Hospital Interns Meet.—The first regular clinical meeting of the Society of Hospital Interns of New York City was held in St. Luke's Hospital, December 19. After reports of cases by seven interns, a general discussion followed on the clinical methods pursued at the different hospitals. Dr. Nathaniel Bowditch Potter, visiting physician to the City Hospital, and the originator of the idea of organization among interns, delivered an address on the purpose, scope and advantages of the society, in which he spoke of the immense value of such a society, not only to its members but to the profession in general, also of the spirit of rivalry that would obtain and the cooperation and unanimity essential among hospital interns, and the diffusion of new ideas that its meetings are bound to promote.

OHIO

Columbus Practitioners' Society Meets.—At the annual meeting of the General Practitioners' Society of Columbus, December 8, Dr. Emma O. Jones was elected president; Dr. Harry E. Myers, vice-president; Dr. Albert S. Barnes, secretary, and Dr. Charles H. Wells, treasurer.

Gift to Hospital.—Announcement was made, December 15, of a donation of $100,000 to the Babies' Dispensary and Hospital Association, Cleveland, by Mr. and Mrs. J. H. Wade, the only condition being that a memorial tablet to Mr. Wade's mother be placed in the new dispensary which is being erected by the association.

Tuberculosis Notes.—A tuberculosis sanatorium has been incorporated at Hamilton with a capital of $20,000.——A bureau of tuberculosis has recently been established in the health department of Cleveland, of which Dr. Robert H. Bishop is chief. Five tuberculosis dispensaries are being maintained in the city, each having its own salaried physician.

Personal.—Dr. William T. Lindsay, Cincinnati, has been appointed physician of Hamilton county jail, vice Dr. Louis J. Feid, resigned.——Dr. Joseph W. Chetwynd, assistant physician at the Massillon State Hospital, has resigned and will practice in East Liverpool.——A dinner was given in Cleveland, December 15, to Dr. Giovanni A. Barricelli, by 150 Italian-American citizens in celebration of the physician's recovery from a critical operation.——Dr. Sherman E. Simmons, Norwalk, is reported to be convalescent after a long illness.——Dr. Adam L. Jackson, Zanesville, who has been ill with cerebral hemorrhage, is reported to be improving rapidly.——Dr. William W. Smith, Portsmouth, who sustained a fracture of the arm recently, has resumed practice.——Dr. James F. Madden ,Toledo, sailed for Europe, December 21.

PENNSYLVANIA

To Compel Birth Reports.—In order to enforce the statute requiring a report of all births, the State Health Department caused the arrest of five physicians of Pittsburg, who were held in $500 bail for court, and action is threatened against 100 others. Dr. James F. Edwards, registrar of vital statistics, says that physicians have been disregarding this statute for several years. In many cases, when burial certificates were asked for children, no certificate of birth could be found by the health department.

Philadelphia

Personal.—Dr. S. Weir Mitchell, who has been a trustee of the University of Pennsylvania since 1875, has resigned.——Arthur R. Cushny, M.D., F.R.C.S., professor of pharmacology in the University of London, will deliver the first of the series of "Weir Mitchell Lectures" at the Weir Mitchell Hall in the College of Physicians on January 17. His subject will be "Heart Irregularity from Auricular Fibrillation."

Death Rate in 1910.—With the exception of 1908 and 1909, the death rate in this city in 1910 was the lowest in the history of the community. The total number of deaths reported was 26,879 and the rate of mortality 17.35 per 1,000 population. In 1908, the rate was 17.17 per thousand population, and in 1910, 16.40 per 1,000 population; 1909 holding the record as determined by the Bureau of Statistics.

First Branch of Free Medical Library Opened.—A medical section of the Free Library at Lehigh Avenue and Sixth Street was opened during the last week in December. A selection of modern text-books, made by the Library Committee of the Philadelphia County Medical Society, is in place on the shelves and current numbers of the best medical journals are on the tables. The committee has likewise in hand a nucleus of a similar collection for the new Southwark Branch Library, now under construction.

GENERAL NEWS

Small-Pox on Transport.—News was received at San Francisco, December 27, of an outbreak of small-pox on the transport *Logan* en route from Honolulu to the Philippine Islands.

Hygienists to Meet.—The fifth Congress of the American School Hygiene Association will be held at the Academy of Medicine, New York City, February 2 to 4, under the presidency of Dr. Luther H. Gulick, New York City.

Prevention of Blindness.—At a meeting of physicians and laymen in New York, December 17, the National Association for the Prevention of Blindness and the Conservation of the Eyesight was formed. Dr. F. Park Lewis, Buffalo, was elected chairman of the board of directors.

Proctologic Society Prize.—The American Proctologic Society announces that the sum of $100 will we awarded to the author of the best original essay on any disease of the colon, by a graduate or senior student of any medical college in the United States, not a member of the society. Essays must be submitted to the secretary of the committee, Dr. Lewis H. Adler, Jr., 1610 Arch Street, Philadelphia, before May 10. Each essay must be typewritten, designated by a motto or device without signature, and must be accompanied by a sealed envelope having on the outside only the motto or device contained on the essay, and within, the name and address of the author and motto or device used on the essay. The committee reserves the right not to make the award if no essay considered worthy of the prize is submitted. The object of the prize and competition is to stimulate increased interest in and knowledge of proctology.

FOREIGN NEWS

British-American Hospital for Chile.—The site has been secured and plans are under way for the construction of a hospital at Valparaiso, Chile, by the British and American colonies. The hospital is to cost up to $50,000, and is intended to be modern in every respect.

The Netchaeff Festschrift.—The issue of the *Russkiy Vrach* of November 25 is a special *Festnummer* of 175 pages in honor of Dr. A. A. Netchaeff's continuous service for twenty-five years as chief of the Obuchow general hospital at St. Petersburg. It contains forty-seven articles from the internists and surgeons connected with the hospital and the proceedings for the last two years of the association of hospital physicians.

Cholera Passes the Hundred Thousand Mark.—The entire issue of the *Russkiy Vrach* of December 3 is devoted to articles on cholera and the great epidemic in Russia this year. The disease had caused 100,679 deaths by that date according to the official register. The distribution, mode of spread, healthy carriers, treatment and other aspects of the problem are discussed in detail, with especially minute study of conditions at St. Petersburg. The epidemic is dying out.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 16, 1910.

The Discovery of Carbon-Monoxid Poisoning Long After Death

On May 11 occurred at Whitehaven one of those mining disasters which from time to time send a thrill of horror through the country: 136 men and boys lost their lives. An explosion occurred and the mine caught fire. After all attempts at rescue failed, the affected parts were bricked up to prevent the fire from spreading. Five months afterward the bodies were found, most of them being much decomposed. Specimens of liver and heart were sent to a physiologist for examination with the result the spectroscope showed that in 35 cases death was due to poisoning by carbon monoxid. This constitutes a record in the length of time for the detection of carbon-monoxid hemoglobin. In many of the other bodies it was supposed that death was due to the same cause but that the carbon monoxid was dissociated by heat and bacterial agency.

The Health of the Navy

The annual statistical abstract of the health of the navy for the year 1909, which has just been issued, shows a continuous improvement in the general health of the fleet as compared with the preceding five years. Not only are the case, invaliding, and death ratios lower than the average for the preceding five years, but the average loss of service for each person has again dropped, from 10.8 to 9.76 days. The total force in the year 1909 was 112,700 and the total number of cases of disease and injury was 72,540, which gives a ratio of 643.65 per thousand, a decrease of 75.34 as compared with the average for the preceding five years. The total number invalided was 2,007, which gives a ratio per thousand of 17.8, a decrease of 4.3 in comparison with the average of the preceding five years. The total number of deaths was 362, giving a ratio of 3.21 per thousand, a decrease of 0.54 in comparison with the average of the preceding five years. Two hundred and fifty-eight were due to disease and 104 to injury. The number of days' loss of service due to venereal disease was 325,889, while the average daily number of men ineffective from these diseases was 892, as compared with 889 in 1908 and 903 in 1907.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 16, 1910.

Personal

The professors of the Paris medical college have just nominated Dr. Dejerine, professor of medical pathology, to the clinical chair of diseases of the nervous system at the Salpêtrière. This position, once made notable by Charcot, was recently occupied by Professor Raymond, who died last September. Professor Dejerine is to-day about 55 years old. He was a pupil of Vulpian, and, from the beginning of his career, specialized in diseases of the nervous system. His scientific work in this domain is of considerable extent, and his books on myopathy, neuritis, tabes, and motor and sensory spinal localizations, have brought him a great reputation. In collaboration with his wife, Mme. Dejerine-Klumpke, he has published an "Anatomy of the Nervous Centers," and in collaboration with Dr. Thomas, a work on diseases of the spinal cord, which appeared in Brouardel and Gilbert's treatise on medicine and therapeutics.

The House Where Pasteur Was Born

The municipality of Dôle, Jura, has just voted to buy and preserve the house where Pasteur, on Dec. 27, 1822, was born. It has decided, moreover, to ask the aid of "all of the admirers of that great benefactor of humanity."

Feminine Candidacy for the Academy of Sciences

In consequence of the candidacy of Mme. Curie for the place of M. Gernez in the section of general physics of the Académie des sciences, some members of the various academies composing the Institut de France (the Académie de médecine is not a part of the institute), influenced by the possibility of a precedent, have petitioned these academies to lay the question before the central commission. The petition has aroused a very warm discussion on the part both of the defenders and of the adversaries of feminine candidacy. The idea of complete solidarity among the various academies which compose the institute has been defended against the theory of the entire autonomy of each academy. The fact has been especially emphasized that the election of a member to one of the five academies carries with it the title of member of the institute, and that in accepting feminine candidacy, the Académie des sciences runs the risk of sometime admitting a woman to the presidency of the institute, that is to say, of all the academies, even of those opposed to the admission of women. Failing to agree, the commission decided to send the petition to the administrative commissions of each of the five academies for their advice, and then to lay the question before the five academies assembled for the trimonthly joint session, which will be held in January.

In this connection it is not without interest to note that the section of chemistry of the Royal Academy of Science of Stockholm has just decided unanimously to elect Mme. Curie as a foreign member in place of the Italian savant Cannizzaro, deceased.

Resolution in Regard to the Premature Publication of New Remedies

In the course of its last session the Association des journalistes médicaux français passed the following resolution: "Considering the real danger presented by premature publication of new remedies, the association regrets the haste with which incomplete ideas relative to such remedies are placed before the public in the lay press."

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 9, 1910.

Personal

Privy Councillor Prof. Kirchner of the Prussian department of education has been chosen to fill the place of Robert Koch in the board of directors of the Robert Koch foundation for the campaign against tuberculosis.

As a result of the founding of an institution for research under the auspices of the Kaiser, which I reported to you in connection with the centennial of the Berlin university, he has received the honorary degree of doctor from the medical faculty of the university of Prague.

Leyden Lectures

As a permanent honor to its founder, who was also for many years its honorary president, the Verein für innere Medizin und Kinderheilkunde of Berlin resolved, on motion of Professor Schwalbe, to establish a Leyden lectureship, the lecture to be given annually at the first session of the winter semester, by a speaker selected by the board of directors. This arrangement, which follows the English custom, is the first of the kind made in Germany. A large fee will be paid the lecturer, derived from the interest of the fund of $14,000 (56,000 marks), established on the seventieth birthday of von Leyden. The rest of the interest on the fund is to be devoted to scientific research under the influence of the society for internal medicine (Verein für innere Medizin), as the president of the society is also president of the fund.

Strike of Contract Physicians at Halle

A short time ago a difficulty arose about fees between the management of the local sick insurance societies in Halle and their medical appointees, and the Leipsic league forbade any supply to the societies by other physicians. As the insurance societies on this account were unable to supply proper medical aid, the city government on the authority of the social insurance law deprived the insurance officials of their office and took over the management of the bureau. A contract has now been concluded between the city government and the insurance physicians, which meets the demands of the physicians. This affords new evidence of the power of the Leipsic league backed by the German medical profession.

This affair will doubtless tend to make the legislators, who are still busy with the new imperial insurance law, more careful to avoid conflict with the entire medical profession. The management of the Leipsic league has issued an announcement to the effect that physicians will combine for mutual aid if the projected unfavorable provisions of the new imperial insurance bill are enacted into law.

Proposed Professional Courts of Honor for Bavaria

After repeated unsuccessful trials to establish courts of honor by law, the Bavarian medical councils have attempted to make such an arrangement themselves. According to their plan, each society shall establish an arbitration and an honor court. The arbitration court shall have jurisdiction over all the members of the district society and the court of honor over all except military surgeons during their term of service and health officers who are not engaged in practice. The arbitration court has charge of all difficulties between physicians. Charges before the court of honor can be made by any physician and in certain cases even by laymen. The members of the district society are bound to apply to the arbitration court before suing a fellow practitioner. Laymen may be called as witnesses. The penalties may consist of warnings, notices, advice to resign from the society, money fines and expulsion. At the last session of the medical councils this plan was discussed but no decision was reached.

Wholesale Poisoning from Margarine

A few days ago a wholesale poisoning was caused in a number of cities, especially in Hamburg, by the use of Backa-Margarine from an Altona factory. The chemical investigation undertaken in Hamburg and other places showed the presence of a vegetable fat not more exactly characterized. The impression has been conveyed by an advertisement of the manufacturers, which offers a reward for the discovery of the person who adulterated the product, that it was a criminal action of some appointee. On the other hand, this view does not seem to be accepted by other manufacturing firms, for they have excluded the suspected firm from their association. It is to be hoped that further investigations will clear up this very deplorable affair.

Dental Students Boycott a School

The dental department of the Breslau university has been defective in room and equipment for a long time. Demands for improvement have been repeatedly made by the faculty and in parliament without success. Now about one hundred students have boycotted the institution; refusing to attend lectures and exercises. It is to be expected that this special protest will have a good effect.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 12, 1910.

A Discussion on Salvarsan ("606") in Vienna

The frequency of syphilitic affection in the patients frequenting the Vienna Policlinic and the various other hospitals and clinics of this city has rendered the experience of our syphilologists rather extensive. Postluetic and metaluetic affections are also very frequent in this country, and all such patients flock to Vienna from all Austria and from the southeastern Slavonic and oriental states which have no nearer place whence to seek help. Thus Vienna has the advantage of seeing an enormous number of cases belonging to this group of diseases. Naturally the discovery of the powerful effects of Ehrlich's salvarsan has been followed up very quickly here, and Ehrlich has provided the Vienna hospitals with sufficient doses for the purpose.

A symposium was held recently in the two Vienna medical societies, in which the experiences gained within the few months were reported. Professor Finger's conclusions were that the remedy has a powerful and specific action; its chief indication is to be sought where a rapid action is necessary. Professor Finger cannot admit that the syphilitic process itself is influenced by it in a much better way than by the old remedies. Its harmlessness has not yet been proved; it seems to have a "neurotropic" action by sensitizing, so to say, certain nerves for the luetic toxin.

Professor Rehl has investigated the literature on bad results after injection of mercury and after salvarsan. Hitherto 40,000 injections of the latter have been made and not a single case of death could be attributed directly to the latter substance while since 1906 there are ninety cases of fatal result after mercury injection. Therefore there seems to be, in his opinion, reason for the preference of "606."

Professor Urbantschitsch has seen sixty cases of affections of the ear caused by syphilis or by salvarsan. The interesting point is that in many cases an isolated affection of the vestibular nerve, with nystagmus, dizziness and vomiting, has appeared a few days after the injection, but soon disappeared. On the other hand, inveterate luetic ear affections have improved wonderfully under "606," but it is yet a question whether the improvement will be a permanent one.

Professor Alexander has seen sixty-four cases of syphilis of the ear before the introduction of "606," among them only three in recent syphilis. Therefore the frequent appearance of ear trouble after "606" seems to show that this remedy has some undesirable effect on the auditory organs. Therefore Alexander thinks that salvarsan should be used only in inveterate cases of luetic labyrinthic dizziness and deafness.

Professor Matzenauer thinks that the remedy is very useful for obtaining rapid improvement of syphilitic symptoms, but that there is not yet a single proof that the action is a permanent one. In 3 per cent. it has failed altogether, while in five cases of lues maligna it has had in his hand a wonderful effect. Relapses appear to be frequent (8 per cent.) even in recent infections. In his opinion "606" has not only a "neurotropic" but also an "organotropic" action (fever up to 104 F., general malaise, sweating, vomiting, swelling of the syphilitic lesions.)

Dr. Oppenheim has found that the injection of the substance should be resorted to in all cases of luetic affection of the skin, the mucous membranes and the glands, which respond very quickly. Diseases of the nerves, however, were not so easily influenced and such cases could become much worse. Only if an *indicatio vitalis* was present he would, in opposition to Ehrlich, use it also in brain syphilis. The neurotropic action of the injection was well illustrated by the fact that optic neuritis has been observed by Professor Dimmer and by other ophthalmologists too, in very recent cases of syphilis treated by "606." This is a rarity and must be searched for further. Actual blindness has hitherto not been caused by "606" alone. Salvarsan seems to predispose the auditory and optic nerves to an attack by luetic toxins. Wassermann's reaction has not behaved uniformly. In some cases the reaction has disappeared within three days after the injection, and remained absent or returned after a lapse of three to six weeks or three months. In others, even a repeated injection did not make the Wassermann reaction negative. Therefore, even in this respect, the substance offers certain difficulties. It is the rule in this country to inject about 1/10 of a grain (0.007 gm.) per kilo body weight, in neutral solution preferably; intravenous injection has been recommended by Ehrlich only quite lately, and the results are said to be much better still.

Taking all the pros and cons into consideration, one is forced to admit that Ehrlich has added to the physician's armamentarium a most valuable weapon, the exact action of which has yet to be found. But in one respect it surely surpasses all other remedies. It is the best prophylactic we have at present, as Dr. Hobler said. He saw many hundreds of cases of old syphilis in Bosnia in South Austria, where the whole population may be regarded as more or less syphilitic or heredosyphilitic. He advises that all prostitutes known to the police be treated prophylactically with salvarsan. This would be, in his opinion, the safest means of eradicating the most dangerous and most frequent means of infection. If this were the law everywhere, syphilis might soon be mastered.

Marriages

Byron F. Barker, M.D., to Miss Mildred Todd, both of Bath, Me., December 14.

Samuel Salinger, M.D., Chicago, to Miss Florence Whiteson of Philadelphia, December 26.

Clay Lloyd Nichols, M.D., to Miss Effie Duckwall, both of Louisville, Ky., December 21.

Seymour Lewis Homrighouse, M.D., to Miss Ada Gorss, both of Hagaman, N. Y., recently.

Robert Cade Parrish, M.D., to Mrs. Mary Barson Garrod, both of Philadelphia, December 15.

Soren S. Westly, M.D., Manly, Ia., to Miss Susie Florynce Cron of Gladbrook, Ia., December 7.

Alan Goodwin Brooks, M.D., Stoy, Ill., to Miss Ruth E. Kenney of Oil City, Pa., December 17.

William S. Ehrich, M.D., Evansville, Ind., to Miss Bertha Juhad of Louisville, Ky., December 19.

Walter Edwin Walker, M.D., Graham, N. C., to Miss Carrie Stanford of Marion, N. C., December 22.

Charles E. Smith, M.D., Johnson City, Tenn., to Miss Dora Kinney of Mitchell County, N. C., recently.

William Edgar Holland, M.D., Fayetteville, Pa., to Miss Rose Viola Byers, at Harrisburg, Pa., December 23.

Deaths

Willis Goss MacDonald, M.D. Albany (N. Y.) Medical College, 1887; a member of the Medical Society of the State of New York; professor of abdominal and clinical surgery in Albany Medical College; attending surgeon and consulting surgeon to the Westfield Hospital; a member of the Albany Board of Education; one of the prime movers in the establishment of the Raybrook State Hospital for the Treatment of Incipient Tuberculosis; major and surgeon of volunteers in the Spanish-American War; died at his home in Albany, December 30, from pneumonia, aged 47.

Frederick Wilcox Chapin, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association; consulting physician and surgeon to the Springfield (Mass.) Hospital; a member of the local pension examining board; at one time trustee of the Northampton Insane Hospital; chairman of the camp committee of the local society for the prevention of tuberculosis; died at his home in Springfield, December 16, from angina pectoris, aged 61.

William Marsh Proctor, M.D. Hahnemann Medical College, Philadelphia, 1899; of Braddock, Pa.; surgeon to the Braddock works of the American Steel and Wire Company; who was operated on in the new Homeopathic Hospital, Pittsburg, December 13, leaped from a window in the hospital, December 14, while delirious, sustaining injuries from which he died an hour later, aged 36.

Charles Merrill Bertholf, M.D. Kansas City Medical College, 1904; a member of the Kansas Medical Society; physician for the Hamilton and Fidelity Coal and Mining companies, Cherokee; died in Peabody, December 16, from the effects of morphin, self-administered, it is believed, with suicidal intent, while despondent, aged 35.

William MacQuigg, M.D. Western Reserve University, Cleveland, O., 1861; assistant surgeon of the Twenty-sixth Iowa Volunteer Infantry during the Civil War; a member of the local pension examining board; died at his home in Clinton, Iowa, December 18, from cerebral hemorrhage, aged 82.

Frank Whitman, M.D. Berkshire Medical College, Pittsfield, Mass., 1863; of Bellows Falls, Vt.; surgeon of the Fifty-eighth Massachusetts Volunteer Infantry during the Civil War; died at the hospital of Dr. Henry O. Marcy, Cambridge, Mass., December 20, from arteriosclerosis, aged 75.

William H. Swander, M.D. Cincinnati College of Medicine and Surgery, 1859; for two years prosector to the chair of surgery; surgeon in the Federal service during the Civil War; for many years a resident of Washington, D. C.; died in Hampton, Va., December 11, aged 75.

Isaac H. Brewton, M.D. Medical College of the State of South Carolina, Charleston, 1886; formerly quarantine officer of Eagle Pass, Tex., and railway surgeon; died at his home in San Antonio, December 9, from septicemia, due to a carbuncle of the nose, aged 74.

Elizabeth Gallimore, M.D. Cooper Medical College, San Francisco, 1887; a member of the American Medical Association; of San Jose, Cal.; died in the Petry Sanitarium in that city, December 16, three weeks after an operation for appendicitis, aged 50.

Myron Watson Hunt, M.D. University of Vermont, Burlington, 1882; of Moreland, N. Y.; twice coroner of Oneida county, and a member of the board of education of Holland Patent; died in a hospital in Oklahoma City, December 5, from typhoid fever, aged 55.

Albert Reeder (license, years of practice, Massachusetts, 1894); was found dead in his apartments in Boston, December 25, from the effects of the inhalation of illuminating gas, aged 55. The medical examiner's decision was that the case was one of suicide.

Marquis L. Martin (license, Ind., years of practice); representative in the state legislature in 1872 and 1873; a practitioner of Indiana for 66 years; died at the home of his daughter in Rossville, December 14, from heart disease, aged 89.

J. W. F. Parker, M.D. University of Louisville, Ky., 1850; a member of the Kentucky State Medical Association; for several years president of the Pulaski County Medical Society; died at his home in Somerset, December 18, from pneumonia, aged 75.

James L. Clayton, M.D. University of Arkansas, Little Rock, 1891; representative from Concordia Parish in the Louisiana legislature from 1892 to 1896; and a member of the parish school board; died at his home in Clayton, December 23, aged 52.

Henry Parsons Terry, M.D. New York University, New York City, 1866; formerly supervisor of Riverhead, Long Island, N. Y.; and president of the Suffolk County National Bank; died at his home, December 5, from heart disease, aged 71.

Austin W. Foreman, M.D. American Medical College, Eclectic, St. Louis, 1878; of Vinita; a member of the Oklahoma State Medical Association; died in St. John's Hospital, Springfield, Mo., December 18, from disease of the stomach, aged 55.

Robert Hall, M.D. College of Physicians and Surgeons, New York City, 1856; a member of the Massachusetts Surgical and Gynecological Society; died at his home in Providence, R. I., December 13, from cerebral hemorrhage, aged 81.

Hugh L. Ferguson, M.D. Cincinnati College of Medicine and Surgery, 1869; at one time mayor of Westerville, O.; a veteran of the Civil War; died at the home of his son in Plain City, O., December 11, from osteosarcoma, aged 75.

George Scott Locke, Jr., M.D. Dartmouth Medical School, Hanover, N. H., 1900; formerly of Concord, N. H., and Fort Davis, Tex., died on his father's ranch in Jeff Davis County, Tex., November 4, from pneumonia, aged 35.

George Washington Smith, M.D. Hahnemann Medical College, Philadelphia, 1876; visiting physician to the Children's Homeopathic Hospital; died at his home in Philadelphia, Decembber 14, from heart disease, aged 67.

William S. Elliott, M.D. Vanderbilt University, Nashville, Tenn., 1883; of Langford, Port Royal, Tenn.; died in a hospital in Rochester, Minn., December 12, after an operation for cancer of the intestines, aged 54.

John Selden Parker, M.D. Medical School of Maine, Brunswick, 1849; for many years a practitioner of East Lebanon; died at the home of his son in Providence, R. I., December 18, from senile debility, aged 86.

Ludwig Wehlau, M.D. University of Würzburg, Germany, 1874; a member of the American Medical Association; died at his home in Scranton, Pa., December 23, from carcinoma of the intestine, aged 59.

Montraville Waddle (license, years of practice, Ill., 1878); for 45 years a practitioner; hospital steward during the Civil War; died at his home in Carmi, Ill., December 22, from rheumatism, aged 77.

John Burgess Gaither, M.D. College of Physicians and Surgeons, Baltimore, 1869; a member of the Medical Society of the State of North Carolina; died at his home in China Grove, December 17, aged 63.

Frank W. Rodgers, M.D. Chicago Homeopathic Medical College, 1888; a member of the Ohio State Medical Association; died at his home in Findlay, O., from nervous prostration, December 18, aged 47.

James H. Harris (license, Md., 1873); professor of operative dentistry in the Dental Department of the University of Maryland; died at his home in Baltimore, December 12, from pneumonia, aged 76.

David L. Todd, M.D. Tulane University, New Orleans, 1854; surgeon in the Confederate service during the Civil War; died at his home in Washington, La., December 15, aged 83.

John Robert Culbertson, M.D. Atlanta (Ga.) Medical College, 1883; a member of the South Carolina Medical Association; died at his home in Gray Court, December 15, aged 65.

Giles F. Roosevelt, M.D. Denver Homeopathic College, 1902; a member of the Colorado State Medical Society; died at his home in Denver, December 10, from tuberculosis, aged 36.

John R. Miller, M.D. Cleveland, O., 1854; College of Physicians and Surgeons, Keokuk, Ia., 1861; died at his home in Elvaston, Ill., December 24, from senile debility.

Luther Cochran Cook, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1863; died at his home in Ellsworth, Kan., December 19, from cerebral hemorrhage, aged 82.

Henry Vigor, M.D. Eclectic Medical Institute, Cincinnati, 1870; for 60 years a practitioner; died at his home in Brandon, O., December 11, from senile debility, aged 89.

Benjamin Hill, M.D. Ensworth Medical College, St. Joseph, Mo., 1891; died suddenly at his home in Huntsville, Wash., December 6, from heart disease, aged 68.

James Frost, M.D. University of California, San Francisco, 1877; of San Francisco; died at the home of his daughter in Sacramento, December 11, aged 74.

D. L. Whaley, M.D. Missouri Medical College, St. Louis, 1888; died at his home in Browning, Mo., December 10, from disease of the stomach, aged 60.

"The Propaganda for Reform"

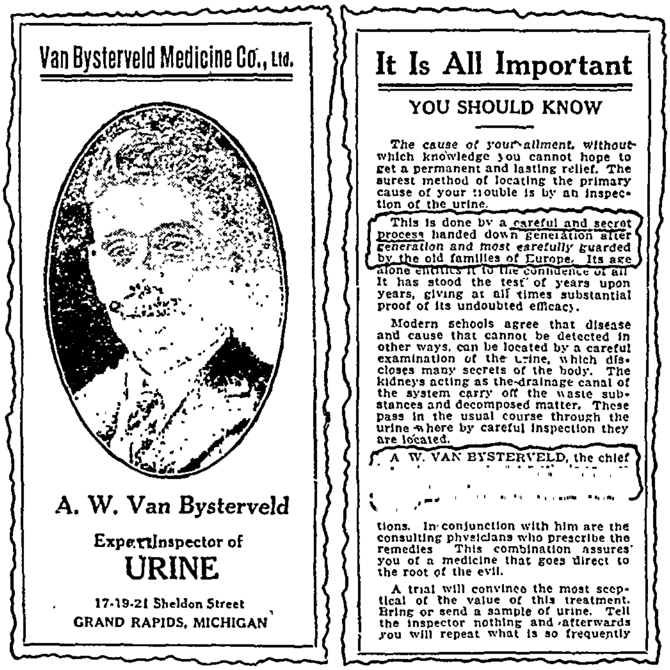
In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matters Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE VAN BYSTERVELD MEDICINE COMPANY

A Fraudulent Concern that Makes Fake Diagnoses by Means of Farcical Uranalyses

If it were not for the fact that self-drugging is always dangerous and that swindling people is always criminal, the study of the genus *Faker* would often be amusing. Some quacks are so naively dishonest, so frankly fraudulent, so transparently tricky that one can but stand aghast at the stupendous gullibility of the public which makes their trade a thriving one. Some medical frauds show care in conception and expertness in execution; they show, in fact, that skilled lawyers have been consulted to determine just how immoral a concern may be without becoming illegal. On the other hand there are some fakes of a medical nature which in their crudeness of operation excite disgust for their inventors and contempt for their victims.

The Van Bysterveld Medicine Co., Ltd., is a fraudulent concern with headquarters at Grand Rapids, Mich. It advertises in cheap magazines that it "will locate the cause of your aches and pains" free. All you need do is to send in a sample of your urine "stating age and sex" and they will do the rest. The "expert" who performs these marvels in diagnosis is A. W. Van Bysterveld, who, we are told, "has spent a lifetime in examining human urine."



Van Bysterveld Medicine Co., Ltd.

A. W. Van Bysterveld

Expert Inspector of

URINE

17-19-21 Sheldon Street

GRAND RAPIDS, MICHIGAN

It Is All Important

YOU SHOULD KNOW

The cause of your ailment, without which knowledge you cannot hope to get a permanent and lasting relief. The surest method of locating the primary cause of your trouble is by an inspection of the urine.

This is done by a careful and secret process handed down generation after *generation and most carefully guarded* by the old families of Europe. Its age alone entitles it to the confidence of all It has stood the test of years upon years, giving at all times substantial proof of its undoubted efficacy.

Modern schools agree that disease and cause that cannot be detected in other ways, can be located by a careful examination of the urine, which discloses many secrets of the body. The kidneys acting as the drainage canal of the system carry off the waste substances and decomposed matter. These pass in the usual course through the urine where by careful inspection they are located.

A. W. VAN BYSTERVELD, the chief [illegible]

tions. In conjunction with him are the consulting physicians who prescribe the remedies This combination assures you of a medicine that goes direct to the root of the evil.

A trial will convince the most sceptical of the value of this treatment. Bring or send a sample of urine. Tell the inspector nothing and afterwards you will repeat what is so frequently

Fig. 1.—Photographic reproduction (reduced) of the outside cover and the first page of the folder sent out by the Van Bysterveld Medicine Company.

A LETTER IS WRITTEN

A few inquiries having come in to The Journal concerning this company, it seemed worth while to make some investigation of the methods employed by the Van Bysterveld Medicine Company. Accordingly a letter from a supposititious patient was sent last March, asking for "full particulars about your cure for disease." In reply the company sent a mailing case containing a small 1-dram vial (for the urine), a leaflet and a letter. The leaflet had for its front cover a picture of "A. W. Van Bysterveld, Expert Inspector of Urine." Mr. Van B. seems, from his picture (Fig. 1) to be a man of mediocre intelligence who runs to naturally curly hair and an artificially curled mustache. The analytical methods employed by Mr. Van B. in examining urine are described as follows:

> "This is done by a careful and secret process handed down generation after generation, and most carefully guarded by the old families of Europe. Its age alone entitles it to the confidence of all. *It has* stood the test of years upon years, giving at all time substantial proof of its undoubted efficacy."

The "expert examiner" is apostrophized thus:

> "A. W. Van Bysterveld, the chief inspector, whose secret methods are not taught in schools, examines on an average of 25,000 bottles of urine a year. This alone stamps him as an authority and of exceptional qualifications. In conjunction with him are the consulting physicians who prescribe the remedies. This combination assures you of a medicine that goes direct to the root of the evil."

SEVERAL LETTERS ARE RECEIVED

The letter that came in answer to the inquiry, referred to the mailing case and pamphlet that were being sent and then went on to say:

> "Our method of examining the urine and thereby locating the CAUSE of trouble and *prescribing medicine to remove the cause*, has proved most successful in the past.
>
> "Our fees, when urine is sent by mail, are $1.25 per week, which includes a careful examination of the urine and medicine enough to last one week."

This letter was signed by the company but the initials of, presumably, the writer were given as "G. R. S." In a clipping which we have on file from a Grand Rapids (Mich.) paper we learn that George R. Stark, M.D., of Grand Rapids, is secretary of the Van Bysterveld Medicine Company. Whether Dr. Stark wrote the letter quoted above can only be surmised.

The company's letter was purposely unanswered for eight months, during which time a number of "follow-up" letters were received, each urging the prospective victim to send in the sample. The November "follow-up" letter—also bearing the initials G. R. S.—had the following *statement:*

> "Perhaps you have overlooked the fact that we make the first examination free, that you have the benefit of the best expert advice upon your condition without any cost to yourself, and that should you decide to take a course of treatment the cost is only $1.25 for one week or $2.25 for two weeks."

SAMPLE ONE

On receipt of the November letter it was decided to test the analytic and diagnostic powers of the Van Bysterveld concern. For this purpose the Association's chemists made up a few ounces of the following mixture and a vial full of it was sent to the company:

Hydrant water	about 1 dram
Pepsin	trace
Anilin dye	enough to color
Ammonia	trace

This solution was sent to the Van Bysterveld Medicine Company for its "expert inspector" to examine and a letter was written asking the company to diagnose the supposititious patient's case. Here is its diagnosis:

> *Diagnosis 1.*—"Careful examination of the urine shows there is too much acid in the blood, which will cause a rheumatic condition, the back is weak, and you will have a tired nervous feeling most of the time."

SAMPLES TWO AND THREE

In the meantime two persons, one in Iowa and the other in Michigan, had been asked to correspond with the concern, so as to obtain the mailing cases and vials. These vials were filled in the Association laboratory but were mailed to the Van Bysterveld Company from the towns in which their respective recipients lived—and *they were filled with a part of the same mixture that was sent in the first vial!* Back came the following diagnoses:

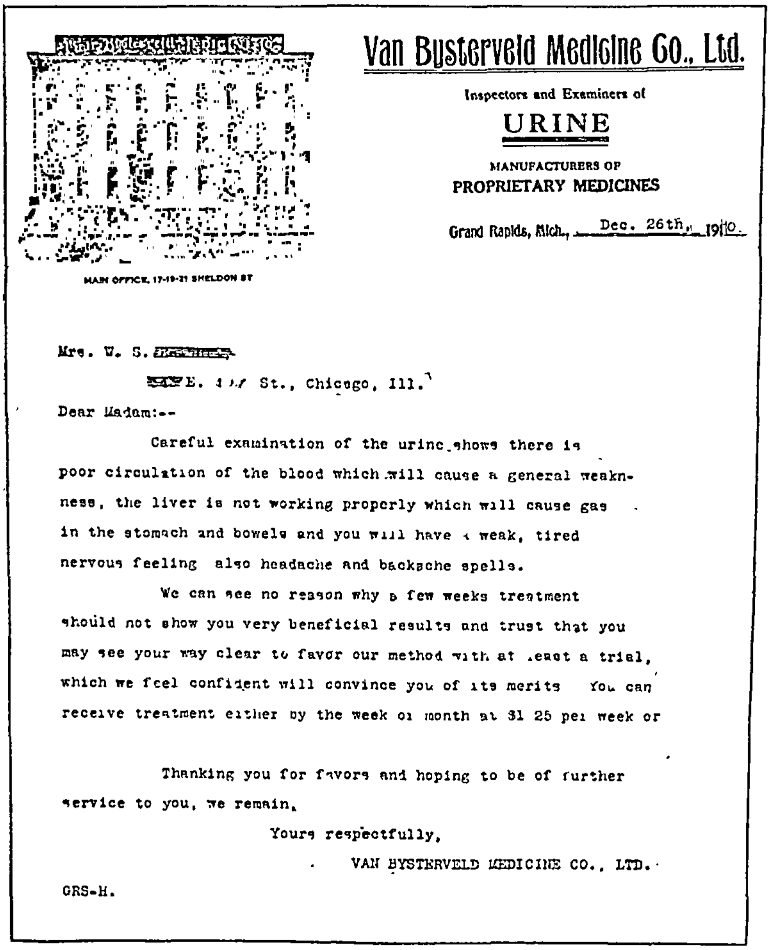
> *Diagnosis 2.*—"Careful examination of the urine shows the circulation of the blood to be very poor, the liver is not working

properly, which will cause gas in the stomach and bowels and will effect [*sic*] the heart, you have caught a little cold which has settled in the back and stomach and you will have a nervous feeling."

Diagnosis 3.—"Careful examination of the urine shows you are losing too much albumin in the urine, which will cause the back and kidneys to be weak, and there is a catarrhal condition of the stomach and bowels, and you will have a tired nervous feeling most of the time."

It seems, therefore, according to the "careful and secret process" of examining the urine that is so "carefully guarded by the old families of Europe," that a mixture of hydrant water, pepsin, anilin dye and a trace of ammonia indicates many pathologic states. Only one condition seems to be common to the three cases diagnosed and that is the "tired, nervous feeling." According to Van Bysterveld, whatever else may ail a person who is excreting pepsin, anilin dye and hydrant water through his kidneys, he will unquestionably be both "tired" and "nervous."

Seriously, though, the reason for tacking on the "tired, nervous feeling" to every "diagnosis" is perfectly evident. Every individual who is sick and every individual who *thinks* he is sick, to say nothing of a large number of people who belong to neither class, will have a "tired, nervous feeling," at least once in a while. It will be noticed that whenever the Van Bysterveld "diagnoses" deal with anything but the broadest generalities they describe such indefinite little aches and pains as any person suffering from the slightest indisposition would be likely to have. And naturally, it is the indisposed who, as a rule, write to these fakers.



Van Bysterveld Medicine Co., Ltd.

Inspectors and Examiners of
URINE
MANUFACTURERS OF
PROPRIETARY MEDICINES

MAIN OFFICE, 17-19-21 SHELDON ST

Grand Rapids, Mich., Dec. 26th, 1910.

Mrs. W. S. [redacted]
[redacted] E. [illegible] St., Chicago, Ill.

Dear Madam:--

Careful examination of the urine shows there is poor circulation of the blood which will cause a general weakness, the liver is not working properly which will cause gas in the stomach and bowels and you will have a weak, tired nervous feeling also headache and backache spells.

We can see no reason why a few weeks treatment should not show you very beneficial results and trust that you may see your way clear to favor our method with at least a trial, which we feel confident will convince you of its merits You can receive treatment either by the week or month at $1 25 per week or

Thanking you for favors and hoping to be of further service to you, we remain,

Yours respectfully,
VAN BYSTERVELD MEDICINE CO., LTD.

GRS-H.

Fig. 2.—Photographic reproduction (much reduced) of one of the "diagnosis" letters sent in reply to a supposititious patient who had submitted a mixture of hydrant water and glucose. The name of the person and the house number have purposely been obliterated.

SAMPLES FOUR AND FIVE

Still further to demonstrate the worthlessness of the alleged uranalysis two more specimens were sent from two different persons in Chicago. These specimens also were prepared in the Association laboratory and had the following composition:

Hydrant water	95 per cent.
Glucose	5 per cent.

Nothing was added to give either color or odor to this last mixture! Now, as every physician knows, the presence of glucose in urine in such a large proportion as 5 per cent. is not only one of the easiest things to ascertain but any person excreting that amount of sugar would be in a desperate condition. Evidently, therefore, if any examination, worthy the name, of the last two specimens had been made the presence of sugar must have been evident. What did "expert inspector" Van Bysterveld have to say regarding these two cases?

Diagnosis 4.—"Careful examination of the urine shows there is poor circulation of the blood, which will cause a general weakness, the liver is not working properly, which will cause gas in the stomach and bowels, and you will have a weak, tired nervous feeling, also headache and backache spells." [See Fig. 2 for a photographic reproduction of this "diagnosis" letter.]

Diagnosis 5.—"Careful examination of the urine shows there is too much uric acid in the blood, which will cause a rheumatic condition, the back and kidneys are weak, and there is a catarrhal condition of the stomach and bowels."

Not a word about the presence of sugar! No mention of the danger that a person excreting 5 per cent. of glucose would be in!

CONCLUSION

The whole thing shows conclusively that the "examination" of the urine is a farce, the diagnosis is a fake and the taking of money from victims for the "treatment" of a purely imaginary disease is a fraud and a swindle. It shows, too, that those publications which accept the advertisements of this concern are, wittingly or unwittingly, participating in the profits of scoundrelism. We sincerely hope that the overworked fraud - order department of the United States postoffice will in the near future get around to this picturesque, but vicious humbug. We trust, also, that if the operators of the Van Bysterveld Medicine Company cannot be given board and lodging at either state or federal expense, they will at least be forced into a more reputable, even if less profitable line of human activity. The swindler who sells stock in bogus companies to presumably intelligent human beings is a gentleman compared with those scoundrels who lie to the sick, humbug the suffering and fraudulently take the money of the incapacitated.

PALATABLE LAXATIVE

Dr. L. F. Cummings, Hopkinton, Iowa, sends the following formula for a laxative devised by his daughter "to take the place of the similar high-priced preparations":

℞		gm. or c.c.
Phenolphthalein	gr. cxxviii	8.
Salicylic acid	gr. x	or .60
Baker's chocolate	℥j	30.
Syrup of acacia	℥j	ad 500.

Melt the chocolate by aid of heat, mix with the syrup of acacia, then add the salicylic acid and phenolphthalein and mix thoroughly. Dispense with "shake label." Dose: 1 to 3 teaspoonfuls. Each fluid dram contains about 1/15 grain (.004 gm.) salicylic acid and 1 grain (.06 gm.) phenolphthalein.

Correspondence

A Preliminary Report on the Mortality of Cancer in the United States, as Given by the Census of 1910

To the Editor:—Bulletin 8, Mortality Statistics, 1909, Bureau of the Census, just issued, gives valuable information regarding the mortality from cancer in the registration areas of the United States. This list includes eighteen states in registration areas and fifty-four cities in non-registration states with an estimated population in 1909 of 48,776,893, being 53 per cent. of the estimated population of the United States.

It is thus seen that the estimated population is a little larger than the real population, which, in round numbers, is 91,500,000, as shown by the latest census report. Taking the above official statement as a basis for comparison, it appears that the registration area in the United States includes one-half of the population. Therefore, by doubling the number of deaths indicated by these mortality statistics, the entire death totals would be approximately determined. In the report mentioned cancer ranks sixth in the mortality list.

On this basis, the mortality tables show (Bulletin 8, page 20) that the deaths in 1909 are in point of frequency in round numbers as follows:

1. Tuberculosis	163,000	4. Pneumonia (all kinds)	98,000
2. Heart disease	132,000	5. Nephritis	97,000
3. Diarrhea and enteritis	105,000	6. Cancer	75,000

The same statistics show the increase of cancer from 1908 to 1909 on the same basis of comparison to be 8,000 (Bull. 8, Table 8, pp. 128-129).

Comparing the deaths from cancer (7,034) for the same year (1909) in the State of New York as published in its monthly Bulletin January, 1910, with its population by the recent census of 9,000,000, the relative mortality in New York is found to be relatively a little greater than in the registration area of the United States. These statistics indicate that one person out of every 1,200 of our population dies every year from cancer. A recent writer, after compiling statistics of the mortality from cancer in European countries, and basing his comparison on population, asserts that there are 80,000 cases of cancer in the United States with a yearly mortality of 40,000. It is difficult to obtain from reliable statistics the average duration of cancer of all varieties. It is, however, believed to be a conservative estimate that the average duration of cancer is three years. On this basis it would appear that at this time there are about 225,000 cases of cancer in the United States. The fact remains, however, that according to the best analysis of statistics attainable, there is a yearly mortality from cancer in the United States of 75,000. In this connection it must be remembered, first, that cancer is not (usually if ever) in the lists of diseases which boards of health require to be reported. This being the case, not all cases of death from cancer are reported as such. Some individuals and families are averse to having the cause of death known and it is not accurately reported, the death being attributed in death certificates to some other cause.

In the second place, doubtless a very considerable number of cases of internal cancer and tumors in various parts of the body are never correctly diagnosticated, and are never included in mortuary tables as such. Thirdly, as the census was taken nearly nine months ago, the natural increase in population would tend to correct any overestimate of the mortality from cancer for 1910.

Until the work of the Bureau of the Census is completed, it will be impossible to know the exact population in registration areas, as compared with that in non-registration areas, and this basis must be known before the ratio of mortality of cancer can be established. Further analysis as related to race, sex and locality cannot be determined until the information in Bulletin 8 has been completed by the census bureau.

When this information is accessible, it is my purpose to make a supplemental report, which will give more accurate data concerning the presence, increase and mortality of cancer in the United States. Enough, however, is known to fix approximately the mortality and demonstrate the rapid increase of cancer. WALTER B. CHASE, M.D., Brooklyn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CLASSIFICATION OF TUBERCULOSIS

To the Editor:—Please give me any information possible in regard to the classification of the various stages of tuberculosis, especially in regard to the Turban-Gerhardt classification.

W. B. LAFFER, Cleveland.

ANSWER.—Turban's classification, put forward in 1899, forms the basis of the classification in use to-day. In Europe it has been modified by the general adoption in addition of part of Gerhardt's scheme. In this country the National Association for the Study and Prevention of Tuberculosis has modified Turban's scheme by adding certain clinical data. Trudeau has a scheme of his own. The three classifications are given below in parallel columns as given in "Tuberculosis," edited by A. C. Klebs, 1909, p. 362.

TURBAN-GERHARDT	NATIONAL ASSOCIATION	TRUDEAU
I Disease of slight severity, limited to small areas of one lobe, that, for instance, in case of affection of both apices, may not extend beyond the spine of the scapula and the clavicles; in case of affection of one apex, frontal, beyond the second rib.	I. INCIPIENT (FAVORABLE) Slight initial lesion in the form of infiltration, limited to the apex or a small part of one lobe. No tuberculous complications, slight or no constitutional symptoms (particularly including gastritis or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially if at rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.	I. INCIPIENT Cases in which both the physical and rational symptoms point to but slight local and constitutional involvement.
II Disease of slight severity, more extensive than I, but affecting at most the volume of one lobe, or severe diseas[illegible] mo[illegible] of	II. MODERATELY ADVANCED No marked impairment of function, either local or constitutional. Localized consolidation, moderate in extent, with little or no evidence of destruction of [illegible]r disseminated [illegible]sits. No serious complications.	II. ADVANCED Cases in which the localized process is either extensive or in an advanced stage, or where, with a comparatively slight amount of pulmonary involvement, the rational signs point to grave constitutional impairment or to some complication.
III All cases extending beyond II, and all such with considerable cavities.	III. FAR ADVANCED Marked impairment of function, local and constitutional. Localized consolidation, intense or disseminated areas of softening, or serious tuberculous complications.	III. FAR ADVANCED Cases in which both the rational and physical signs warrant the term.

GATE CITY MEDICAL COLLEGE CONDEMNED

To the Editor:—1. Is the Gate City Medical College a reputable medical school?

2. Are graduates of this school allowed to become members of the American Medical Association?

J. A. BURNETT, M.D., Calvin, Okla.

ANSWER.—1. This college, formerly located in Texarkana, Texas, but now located in Dallas, was mercilessly exposed by the *Journal of the Arkansas Medical Society*, August, 1907. A circular sent out in that year by that college offered "a course in home reading (mail course) in medicine for $25," on finishing which, a "special diploma" would be granted. The statement was also made that "it takes from four to six months to finish the mail course." There had long been rumors that the college was little better than a diploma mill, but when summoned to appear before the Arkansas Medical Society, Dr. J. W. Decker, the dean, denied the allegations and invited an inspection. The inspection was made, and a part of the report is as follows: "A medical college organized and launched in the midst of an era of the greatest medical energy and progress the world has ever known, (a) that has practically no educational requirement for admission; (b) that is without an anatomic laboratory; (c) that does not require its students to dissect; (d) that makes false representations in its catalogues, thereby attracting many students; (e) that is without sufficient hospital advantages, thus depriving students of the best means of studying diseases clinically; (f) that gives lectures by mail for which credit is given;

(g) that is conducted dually, brazenly, irregularly and unprofessionally, in a Dr.-Jekyll-and-Mr. Hyde manner, should meet its just reward at the hands of the courts. The 'stigmata' of fraud were so much in evidence as to warrant the conviction that not only is Dr. Decker guilty of unprofessional conduct meriting the unqualified condemnation of the profession, but the charter under which he is authorized to conduct his school should be summarily revoked by the Arkansas and Texas authorities, thereby putting an end to a brief but disgraceful chapter in the history of an Arkansas-Texas medical college." Graduates of this college have not been admitted to the examinations of the Texas State Board of Medical Examiners since November, 1907.

2. The school of graduation is not a direct factor in determining eligibility to membership in the American Medical Association. The By-Laws provide that "any physician reported as a member in good standing of a constituent association by the secretary of that association" shall be eligible to membership. In practically all of the states, all members in good standing of the component societies are, *ipso facto*, members of the state association. Consequently all members in good standing of component county societies are eligible to membership in the American Medical Association. A county society may adopt such restrictive regulations regarding membership as its members see fit. Such restrictions, however, exist in very few county societies, admission being on the basis of personal merit.

SODIUM CACODYLATE

To the Editor:—In THE JOURNAL (Nov. 12, 1910, p. 1750) "P. L. M." inquires concerning sodium cacodylate. I note that in your answer as to literature on the subject you make no mention of an article on that subject by Prof. Holmes C. Jackson and myself which appeared in THE JOURNAL, June 22, 1907. Inasmuch as this article is the only one thus far published that gives an authentic description of the physiologic action of the drug, based on pharmacologic investigation and clinical observations, I am surprised that it escaped your notice.

As the question of organic arsenic preparations is now attracting so much attention, I would esteem it as a favor if you would publish a request that anyone who desires information on sodium cacodylate or anyone who has used the drug, successfully or not, communicate with me. SPENCER L. DAWES, Albany. N. Y.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 31, 1910.

Patterson, Robert U., major, ordered to Boston, about Jan. 26, 1911, to read a paper before the School of Medical Officers, Massachusetts Volunteer Militia.

Casper, Joseph, lieut., ordered to Fort Slocum, N. Y., for temporary duty until Jan. 20, 1911.

Girard, Joseph B., colonel, retired from active service.

Sweazey, Verge F., captain, retired from active service with rank of major.

Whitmore, Eugene R., major, leave of absence extended two months.

Ashford, B. K., major, leave of absence extended twenty days.

Collins, C. C., major, leave of absence extended ten days.

Haverkampf, C. W., lieut., left Fort D. A. Russell, Wyo., on fifteen days' leave of absence.

Carr, William B., lieut., reported for temporary duty at Fort Myer. Left Fort Monroe, Va., on Dec. 26, 1910.

Smith, A. M., major, in addition to his other duties, will take charge of the office of chief surgeon, Department of Texas.

Wolven, F. R., dental surgeon, reported for temporary duty at Fort Ward, Wash.

Mason, George L., dental surgeon, reported for temporary duty at Fort Missoula, Mont.

Cullen, Charles W., Medical Reserve Corps, reported for temporary duty at Fort Duchesne, Utah.

Medical Corps, U. S. Navy

Changes during the two weeks ended Dec. 31, 1910.

Field, J. G., surgeon, ordered home to await orders.

Taylor, J. L., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the *Chester*.

McLean, A. D., P. A. surgeon, detached from the *Chester* and ordered home to await orders.

Munson, F. M., P. A. surgeon, detached from the *Buffalo* and ordered to the *Independence*, temporarily.

Backus, J. W., P. A. surgeon, detached from the recruiting station, Detroit, and ordered to the *Pennsylvania*.

White, E. C., P. A. surgeon, detached from the *Vicksburg* and ordered to the *Buffalo*.

Robbins, I. W., asst.-surg., detached from the *Pennsylvania* and ordered to the *Vicksburg*.

Field, J. G., medical inspector, commissioned medical inspector from Oct. 7, 1910.

McDowell, R. W., asst.-surg., ordered to the Naval Academy on the expiration of sick leave.

DeValin, C. M., surgeon, detached from the marine recruiting station, Philadelphia, and ordered to the navy recruiting station, Detroit.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE SECRET COMMISSION EVIL

Report of the Committee Appointed by the Erie County (N. Y.) Medical Society to Investigate the Division of Fees and Its Causes and Remedies

At a meeting of the Erie County Medical Society, held Feb. 21, 1910, Dr. M. D. Mann presented a paper entitled "Dividing Professional Fees." The address was fully discussed and a resolution was unanimously adopted directing the president to appoint a committee to investigate the entire subject, including the causes and possible remedies. In obedience to such instructions a committee was appointed and respectfully reports as follows:

Frequent meetings have been held and the matter assigned us has received careful investigation and consideration. With the object of securing cooperation and information from the profession, a circular letter containing twelve questions was sent to each member of the society and a reply requested. The response revealed disappointing apathy and lack of interest in problems which vitally affect the welfare, standing and ideals of the medical profession. About 540 circulars were sent and thirty-one replies received. Attention is simply directed to this demonstration of indifference; no comment is ventured. The result of the inquiry revealed a practically unanimous agreement that the chief causes of commercialism and its attendant abuses were overcrowding of the profession and too low a standard of education. Your committee has sought information wherever it could be obtained and has tried to arrive at definite conclusions after mature deliberation.

DR. MANN'S CHARGES SUSTAINED

It has been found that Dr. Mann's statements and charges are true—that the practice of dividing fees or giving of commissions by some surgeons to physicians has existed in this city for several years, and that the exposure and criticism of the abuse was justified. We thoroughly approve acquainting the profession with the facts concerning this vicious and dangerous innovation, and favor warning the public of the unhappy results which will follow its continuance or increased prevalence.

SECRET METHODS EMPLOYED

The division of fees has been accomplished by numerous methods. All of them are more or less adroit, deceitful and dishonest. The principal effort has been directed to provide secrecy. In the course of time some operators have become bolder than others and have gradually converted the practice of surgery into a traffic of operating on commission. No one publicly justifies the commercial bargain. If it is defended privately, the excuse or argument is cynical, shifty, selfish or sophistical. After examination from every side there is no honest course except emphatic and unequivocal condemnation of this rather new species of hidden graft.

No matter how cleverly the division of a fee is accomplished, it is done almost invariably without the knowledge of the patient. The person who pays for an operation does not know that part of the amount, which has varied from 25 to 50 per cent., occasionally goes to the physician who recommended the operator. The physician and the surgeon are supposed to render their individual bills, and the afflicted person is entirely ignorant of the "gentlemen's agreement" or "community of interest" which has been introduced from the realms of high finance and legal honesty. The real purpose of the deal is to encourage the physician to send his patients where he can obtain a share of the money paid for relief or attempted relief. The surgeon may be highly competent or he may not be, and the physician may be influenced by financial encouragement. At all events, the performance must pay because it has flourished and been profitable at times when other methods would probably have failed. At times, the demands of the physicians have been quite high and some of the prosperous merchants in surgery may begin to wonder if they have not created a Frankenstein monster.

PERNICIOUS RESULTS OF PRACTICE

The practice may lead to unnecessary operating and junk surgery through increasing zeal to be busy and to establish a false measure of success by the amount of income derived from business instinct and sagacity. The untrained and inexperienced cutter who has learned that there is money in operating, which is lost by the physician, is encouraged to obtain work which should go to the experienced, skilful surgeon who clings to the traditions and ideals of the profession, and will not cringe, stoop or barter to obtain his earned and rightful privilege of employment. The fee may be increased or stretched by agreement to provide for distribution of the spoils, and altogether there is something about the whole wretched proceeding which smells of the rebater, the promoter and the greed for disguised plunder.

MATTER SHOULD BE AIRED

Some members of the profession keenly regret and reprobate any public exposure and discussion of the subject, and fear that the public will become suspicious of all the members of the profession. The answer is simple: it is time that the people knew of the practice and be given an opportunity to penetrate some of the mysteries surrounding the sick-bed. In time the intelligently suspicious may distinguish between types of doctors and exhibit a tendency to investigate conditions quite puzzling to-day.

There is at least one profession that should be clean and have the confidence and trust of the public. Whatever may be its shortcomings in ability to help or save, the effort and purpose must be free from the taint of sordid commercial deals dependent on human suffering and woe. There is very often no more complete picture of helplessness than that of the sick who yearn for relief and know not where to seek it. If abuses exist, the profession must decide whether it will abolish them or allow them to prevail until the public is compelled to undertake the task. Your committee believes that the medical profession should perform the disagreeable work, and that an element is not afraid to expose or denounce iniquities which tend to degrade those who decently follow a noble calling.

LOCAL SITUATION

Honesty and a sense of duty compel us to call attention to the local aspects of this question and confess that an evil has existed. Surgeons can apply a prompt remedy, if they will, by simply stopping the practice. The committee has learned with pleasure and gratification that practically all of the operators in this county have signed an agreement that they will not indulge in any division of fees, and that any violator of the agreement will submit to a penalty which may be fixed by the Erie County Medical Society. It remains for the society to determine the value of this agreement and what steps shall be taken to ensure enforcement. The appointment of a committee to act as a court of honor, and consider complaints, examine evidence and devise methods of punishment—when acts in violation of certain standards of professional dignity are perpetrated—is certainly worthy of careful consideration.

We are sadly deficient in safeguards relating to professional conduct unless flagrant crime supplies a chance for decisive and wholesome action. The legal profession has more efficient control and well-defined direct methods of procedure when they are employed. At present the purpose is to be suggestive in the hope of arriving at some consideration of this theme by the society or its proper committee. If no other penalty can be found at this time, publicity in some form deserves attention as a possible corrective instrument. Something should be done to discriminate between the man whose influence is thoroughly damaging to the profession, and the one who helps to make it reputable and worthy of the highest admiration and confidence.

OVERCROWDED PROFESSION PRINCIPAL CAUSE

Any study of the causes and possible remedies of forms of commercialism, and especially of the division of fees, must be considered in a broad way. The evils are not local but general, wide-spread and probably national in scope. Other cities and localities throughout the country report that the same conditions are prevalent, and have developed in recent years. It would be misleading and unjust to search for causes or seek for explanations in this region, when we fully realize that we are dealing with an epidemic and not an endemic variety of infection. In classifying causes, the chief factor seems to be the unfortunate and unnecessary overcrowding of the medical profession. Those who have studied this phase of the problem arrive at the conclusion that about one-third or, at most, one-half of the present number of physicians and surgeons in the populous districts of this country could fulfil all legitimate demands for human relief and secure a competent living. The average income is far below the amount required to permit of a mode of life consistent with the modern practice of medicine. A large proportion of the profession cannot obtain sufficient practice, experience or skill to become proficient. If the number of doctors in this country were diminished by two-thirds or at least one-half, that proportion to the population would ensure adequate work and emolument, and correspond more closely to conditions in other nations.

The lamentable overcrowding has a most deleterious effect on the profession and the type of men who join its ranks. But the most baneful results will certainly be more keenly felt and appreciated by the public as they are discovered and better understood. At present this nation is in a semibarbarous state so far as provisions for control of national health is concerned. The full meaning of the conservation of natural resources has not yet been recognized as including human beings. In considering overcrowding no attempt has been made to include the army of new "pathies," faddists and variegated assortments of healers, pseudoscientists, or the old contingent of perennial quacks and nostrum-venders. Perhaps, in the advance of preventive medicine and medical education, we are wasting too much sympathy on the class "who never considered it necessary to add the incident of learning to the accident of brains." It has been asserted that overcrowding has long existed, and that evidences of many tricks to secure advancement are comparatively recent. There is no time for judicious discussion of the question whether there has been a decline in the moral standards of the profession, and how much any change is due to imitation and the influence of business crookedness and predatory customs which abound in a favorable environment. The important thing is to call attention to the fact that conditions have changed which make the effects of overcrowding more acute, the scramble for employment and a living more intense, and the temptation to resort to shrewd tactics more common and glaring.

PROGRESS OF PREVENTIVE MEDICINE

During the last twenty years, preventive medicine has made gigantic strides. The incidence of illness, particularly of childhood, has undergone a vast diminution, and the general death-rate has practically been cut in half. The marvelous advance in surgery has removed a large group of patients from the field of medicine, and new discoveries have shortened the period of illness or changed its course. The tardy awakening to the importance of public health will add more and more force to the crusade against disease.

CONTRACT PRACTICE AND OTHER EVILS

Vicious, dangerous and cheap modes of practice have developed to a surprising extent in latter days. Medical and surgical relief under contract, and stultifying agreements with lodges, societies, benefit associations, etc., and underpaid services to life-insurance companies, have demoralized practice among young men and robbed others of just remuneration. These abuses are largely indefensible, being delusive to the patient and public, as the results are mostly ineffective, the service superficial and careless, and often of no genuine value. It is only just to young physicians and the public that this increasing abuse should be investigated and fully considered at a future time. There is much harm and humbug in the practice, and the physician should no longer be a tool for crude, cheap work. Positions held by medical men almost invariably yield totally inadequate compensation, and any protest is unavailing because the supply is apparently unlimited. The young practitioner seeks opportunity for experience and a chance to escape idleness while waiting for employment in a profession where there is little or no room. There are two classes—one seeking the sick to make a living, and another expecting a reference of a patient or a consultation.

Practice legitimately belonging to competent physicians has been given over to faddists with a squint or kink, largely through the fault of narrow dogmatic members of the medical profession who could not or would not realize that the mentality of a patient required thought and attention, and that exercise of the body or its components was a physiologic aid or necessity in treatment.

Hospitals and other institutions have been monopolized or exploited by a few, and some of the hospitals supported by philanthropy are simply hotbeds for fee-splitting and commission jobbery. The industry is tolerated and winked at because the new method fills the private rooms. The amount of revenue the candidate can supply has occasionally become more essential than the amount of ability and character he can offer, when appointments are considered by trustees, or dictated by the staff.

GENERAL PRACTITIONER UNDERPAID

The division of a fee is only one abuse. There are many others harder to perceive and reach, and some of them have given an impetus to this method of trading and may perpetuate it. Undoubtedly this inducement of a commission has been extended in a pernicious effort to compete and grasp a share of operative work. Again it has been used as furtive evidence of sympathy toward the lesser-paid physician. This leads to a consideration of one of the principal contributing factors related to superabundance of doctors and their fees. The cost of living has decidedly increased, and the mode of life has undergone a transformation too little appreciated. The fee and the income have not changed in proportion, if at all. Extravagance is the fashion and the necessities of a progressive physician accumulate each year. He belongs to a class which is struggling along, surrounded by combinations, and the waves of prosperity lose their force before reaching him.

The surgeon and the specialist have educated the public to place a higher value on their services, and there is force in the contention as a rule. Special skill, experience, long training, responsibility and technic are required, and the qualified surgeon is rarely overpaid. Whether the surgeon who gives away half his fee regards himself as overpaid, is another question. The increase of operators and the lure of the knife, because it loosens the purse-strings, will soon equalize and distribute opportunity, and lower the rate of compensation. The surgeon has enjoyed halcyon days and deserved many of them, but he will have to guard and discipline the recruits to his guild, or the public will revolt.

PHYSICIANS MUST DEMAND PROPER REMUNERATION

The physician is actually and proportionately underpaid, and it is almost entirely his own fault. If overcrowding prevents the demand for proper remuneration because others will act for less, let him place the responsibility for the overproduction of doctors where it belongs and register his protest, not alone for selfish reasons, but vastly more for the benefit of the whole profession and the community. The competition that affects livelihood is keenest and most demoralizing among the mass and not among the few. There is no way by which the public can distinguish between the physician who has spent time and labor to become proficient and the one who has not. We have but one degree, and it may mean much or little. Nor is there any good reason why the fee of the physician should be rigidly fixed with no reference to the value of service. He should charge for the thoroughness, efficiency, skill, and time employed in his study of an individual case. Many times his diagnosis, advice and treatment are more valuable than surgical interference. The proper examination of a patient has become a problem involving time, wide knowledge, and chemical and microscopic analysis and search, requiring more and more special training and skill. The time has come for the physician to assert his position and claim what he deserves. He should receive his reward openly and not secretly, and demand due recompense of the patient and not of the surgeon. Let him stand on his own feet and not beg or barter with the surgeon for a hidden share which he has not the courage to ask for. Let him seek assistance, when he needs it, with motives as unmixed as if he were the patient, and receive it with a clean hand from a clean hand, and preserve a decent opinion of himself and his possibly more fortunate confrère.

SUPERABUNDANCE OF MEDICAL COLLEGES

The explanation of the overcrowding in the medical profession will be found in riveting attention on the character of medical education in this country; and recently an opportunity has been afforded to reflect on this interesting subject by the publication of Carnegie Foundation Bulletin No. 4. It should be read by every member of this society. This report may be considered intolerant and radical, but a great service has been performed; and the collection of facts based on investigation will have a tremendous educational value and influence. Already its effect has become manifest, and the supplemental report will probably furnish a guide to action by comparison with European standards. It seems to be true that there are as many medical colleges in this country and Canada as in all the rest of the world. Canada still protects its population from the flood of graduates poured into this country. It also seems to be true that about one-third of the medical colleges in this country could be lifted to a higher modern standard and supply all the doctors needed for an indefinite time and growth of population.

The facility with which medical colleges could be established in this country has long been a disgrace. There probably was a time when the proprietary medical school, with all its schemes for profits among a few, was tolerable or even seemed to be necessary. That time has passed and the school of the proprietary type and its self-created professors, will be eliminated. The medical school will ultimately be obliged to cease depending on students' fees for support, and liberal funds will be required to furnish the tuition which should be supplied to-day. The connection with a university will be close, true and actual—not spurious or non-existent, and trustees and councils will probably cease to be rubber stamps or respectable, irresponsible nonentities, well described by Dickens.

NEW STANDARD OF MEDICAL EDUCATION IMPERATIVE

Many so-called medical colleges are still proprietary in spite of evasion and strenuous efforts to escape from that category. There are direct and indirect profits, and scrutiny will go deeper and deeper to discover the true purpose and objects of these prolific institutions of learning. Is it not very strange that we have such a prodigal supply of medical colleges and that overproduction of the graduates continues unabated, while the professors must know that the oversupply is unnecessary and that the fresh product cannot be assimilated? Is it not perfectly plain that doctors are responsible for the superabundance of doctors and the attendant evils which result from the wholly unnecessary excess? The most wholesome, natural remedy would follow an awakening of the whole profession to its interest and duty in dealing with a national disgrace. The united profession should decide on the necessity for medical colleges, what status they should have and maintain, what shall constitute a medical education, and what shall be required of a licentiate to practice on humanity. There should be control of the appointments of professors, and their duties and obligations to those really concerned should be defined. These matters should not be left to a few self-perpetuating and self-constituted faculties who have enjoyed too much power and freedom from restraint and domination. National and state supervision and radical reorganization of medical teaching and requirements is imperative and inevitable.

There is no reason at present why the standard of qualification cannot be raised more rapidly and the comparison with other countries made less apparent or glaring. The flood of graduates can be checked with safety. It is sophistical to claim that a better class will gradually replace those who are striving to-day. That is the old cry heard with every advance. The real demand is for increased intelligent and stringent legislation and some guarantee that a state license assures true proficiency.

PRESENT STATE EXAMINATION NOT PROPER TEST

A beginning has been made in this state by extending the power of the state regents and providing for a state board of medical examiners. Objections and obstacles had to be overcome before this step was taken, and some good has been accomplished; but an examination for fitness to practice medicine and surgery by present methods must be obviously incomplete and unsatisfactory to anyone who has given the matter any careful thought.

The regents appoint the examiners. If any plan for selection because of special training or attainments is employed, some of the results are truly surprising. A recent excellent appointment deserves warm commendation. The schools, dogmas, creeds and sects are represented, and possibly the recommendation of candidates may emanate from medical societies during political sessions. The board of examiners is presumed to safeguard the public and to act as a clearing-house and check on the medical colleges. When the graduate satisfies the examiners and the law, he is licensed to practice on anybody in any way he chooses.

The candidate is subjected to a written examination and is supposed by many to answer correctly 75 per cent. of the questions. As a matter of fact, he is given fifteen questions, allowed to select ten, and must gain a marking of 75 on them. Consequently, he is really obliged to answer correctly 50 per cent. in accordance with the opinion of the examiners. The questions and answers are published frequently, and it seems as though the students who make a collection of them and cram, or are quizzed assiduously, might find it advantageous. No time need be consumed in explaining to an intelligent physician how crude, farcical and unreliable such a test for admission into one of the highest professions must be of necessity. High percentages obtained in this way are cited with pride by the medical colleges as proof of superior teaching and preparation. The professors and the examiners are both anxious to advance the standards, but new obstacles and conservative policies seem to block the way.

NEW STANDARDS MUST REPLACE OLD

Your committee has learned with gratitude that the time is now near when the candidates will be compelled to reach a percentage of 75 on answers to the full fifteen questions. Thus progress is gradually assured. The time seems to be ripe to insist that the state examinations should in reality prove a candidate's fitness to practice medicine and surgery by demonstration of his knowledge at the bedside and in the laboratory, as well as by written evidence. Before entering such an examination, the applicant should be required to show that he has had actual experience and training in branches of medicine and surgery in a general hospital. It seems eminently fair to request that the licentiate to practice on humanity in this state should be as well qualified as the one the government carefully provides for the sailor and soldier. If such competence could be required, there are a great many problems which would be effectually settled. Of course, the machinery would have to be changed. More money and a reorganization would become necessary, but the real purpose in creating a state board of examiners would be achieved, and their function as sentinels fulfilled. The requirements in preliminary education should certainly be increased in this state.

Legislation should be secured, if necessary, to assist progressive action on the part of the regents, and to transform the personnel, organization and duties of the board of examiners in accordance with present conditions and the need of remedial measures. This society may as well lead in this direction and make its influence felt in the state medical society. It will take time and wisdom to sift the facts and arrive at safe conclusions. There are many interests involved, and while radical action is needed, it should be sane and practical. If there is need of reformation and a sincere desire for improvement, relief seems to lie along that path. If the manifold taints of commercialism are to be discouraged and decreased, and the tone of the profession is to be raised, paramount causes must be attacked. There may be full indulgence in garrulity and strong disapproval of wrongs expressed, but there are only two methods of gaining a greater height. The one who ought to climb must be helped, or lift himself. It is about time to drive home the truth that "a little integrity is better than any career."

PUBLICITY RECOMMENDED

Your committee unanimously recommends that this report be published in medical journals and copies be given to the daily press to be fully presented to the public if possible. Publicity is the safest, sanest course to follow. The confidence of the people must be maintained without equivocation or deception. If the revelation or confession hurts, let the blame rest where it belongs. The mass of the profession is sound, clean and unafraid to condemn ignoble motives and improper conduct which have stealthily stolen into its ranks. Regret is blended with the hope that frank disapproval will make any other action unnecessary.

FUNDAMENTAL CAUSES EXPLAINED

The causes and effects seem easily discernible if they are fearlessly examined and the microscope is occasionally employed instead of a telescope. The historic course of events follows a natural sequence, and it is not surprising that an avenging Nemesis is crying for retribution. When these events are recited in proper order, we can perceive a vast new nation with a rapidly increasing scattered population and no provision for the inception or control of medical education as it existed in older civilized countries. Medical colleges were of necessity created by small practically self-appointed groups, with little or no restraint. Later they were too often established and employed for personal aggrandizement, questionable advantage, and direct and indirect profits. The false system, inculcating special privileges, spread without proper jurisdiction or supervision. In the course of time the outcome was a multitude of proprietary medical schools and gradually a vast superabundance of diploma factories and an oversupply of the product. Substantial benevolent returns from the alumni in proportion to the annual crop were most enticing. Then came control and domination of institutions and increase of lieutenants. Nothing paid so well as professorships and titles, when used to promote the reference of cases and consultations. Frequently the aim in supply was quantity, not quality. Ultimately lamentable overcrowding and a struggle for existence became only too evident. Ambitious doctors endeavored to advance and seize a share of reputation and compensation. Competition was difficult and became keener and fiercer. Many means were suggested to check the flood of graduates and a state examination was introduced. The hoped-for benefit has not been obtained. The number of unnecessary colleges and professors, the yearly flux of deluded graduates, the overcrowding and the baneful competition, continued to exist. Then came the increased cost of living and the added expense of modern practice with no increase and often a decrease in income. This condition is tremendously influenced by industrial and financial revolutions, accompanied by a toleration for moral obliquity and censurable methods in business enterprise. At last a vicious, misdirected mode of competition is found which proves financially successful. It is devoted largely to a pitiful scramble for the dollar, and is still limited to a small part of the profession. One mode of gaining ascendancy and its tribute was followed by another much less tolerable and more reprehensible from a moral standpoint. It is one symptom of reckless revolt, and an adaptation of the policy "after us the deluge." The great mass of the profession has a right to protest and complain of the character and amount of competition to which they have long submitted, but the fee-splitter and the schemer by any method only add another more dangerous incubus. It is the outcropping of the worst, polluted with a desire to substitute one abuse for another, of which many have become thoroughly tired and exasperated.

The blame for the degradation and turmoil in the profession should be traced to its true origin, and the labor of reformation belongs largely to those who are responsible for the conduct and output of institutions ostensibly intended for ethical and medical education, and the laxity of government control, which is the core of the whole problem. Let there be no privilege not beneficial to the whole profession and a fair field on level ground. The cleansing process should extend beyond any one evil now exposed to the light. Its associates and their ancestors need ventilation and disinfection also.

REMEDIES SUGGESTED

As the work of the committee progressed, many cynical remarks have been heard to the effect that any exposure and consequent action will prove ephemeral and futile. It is claimed that this society has no legal power to check or abolish such an evil as has been described. But there are methods which can be used in a drastic manner, if necessary. We ask that this report shall not fall cold and be deposited quietly in the archives of this society. What the Erie County Medical Society begins should be thoroughly finished. A form of bribery must be starved by ostracism and denunciation, or strangled by some form of punishment. Let the matter be kept before the society at future meetings. Investigation should continue. Activity and determined persistence will encourage other societies to follow, and the benefit will be widespread. Now that the facts are known and the dangers appreciated, reform or supine toleration are the only courses left open.

RECOMMENDATIONS OF COMMITTEE

To ensure and possibly to guide effective remedial efforts, the following recommendations are submitted and approval requested:

1. Publication of this report in the medical journals and the daily press is recommended.
2. Reference of that portion relating to complaint, investigation and devising some form of punishment, to the committee on professional relations, is recommended, provision being thus made for continued watchfulness and further consideration.
3. It is recommended that the secretary transmit a communication to the state board of regents, urging the necessity of a higher preliminary educational requirement, and definite changes in the method and scope of the examination for a license to practice in this state; and that this matter be referred to a proper standing or special committee to arouse interest, stimulate inquiry and promote necessary progressive action leading to higher medical education.
4. It is also recommended that a special committee be appointed to report at an early date on the extent, character, effects of professional services under contract or by agreement with companies, corporations, fraternal societies and life-insurance companies; this report to include if possible practical remedies which may be applied to diminish this form of employment or place it on a different basis.

Your committee was assigned a difficult, unpleasant and undesired task, and has discharged a duty with honest intent, free from any malice, prejudice or unkind feeling.

Respectfully submitted.

JOHN H. PRYOR, M.D., Chairman.
M. D. MANN, M.D.
BERNARD BARTOW, M.D.
F. PARK LEWIS, M.D.
WILLIAM GAERTNER, M.D.
IRVING P. LYON, M.D.
E. A. BOWERMAN, M.D.
T. J. WALSH, M.D.
GROVER WENDE, M.D., *ex officio.*

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR

BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

General subject for the month: Anesthesia and Surgical Shock

Sixth Month—First Weekly Meeting

ANESTHESIA—HISTORICAL

Crawford W. Long, W. T. G. Morton, Charles Jackson, Horace Wells, Simpson.

ANESTHETICS

CHLOROFORM: Chemical and physical properties. Physiologic effects: Locally. By inhalation; stimulant, narcotic, anesthetic, paralytic stages. Effects on central nervous system, respiration, circulation, liver and kidney, metabolism, pupils.

ETHER: Chemical and physical properties. Physiologic effects; differs from chloroform.

NITROUS OXID GAS: Chemical and physical properties. Physiologic effects. Use in combination with air and oxygen. Teter's method.

ETHYL CHLORID: Mixtures of ethyl chlorid.

ETHYL BROMID.

REFERENCE BOOKS FOR THE SIXTH MONTH

Buxton: Anesthetics.
Luke: Guide to Anesthetics.
Patton: Anesthetics.
Turnbull: Artificial Anesthesia.
Crile: Surgical Shock.
Crile: Blood-pressure in Surgery.
Bryant and Buck: American Practice of Surgery, i.
Keen: Surgery, i.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, January 10. Chairman, Dr. W. H. Sanders, Montgomery.

DISTRICT OF COLUMBIA: The District Bldg., Washington, January 10. Sec., Dr. George C. Ober, 125 B St., S.-E.

ILLINOIS; Coliseum Annex, Chicago, January 11-13. Sec., Dr. J. A. Egan, Springfield.

INDIANA: 120 State House, Indianapolis, January 10-12. Sec., Dr. W. T. Gott.

NEW MEXICO: Santa Fé, January 9-10. Sec., Dr. J. A. Massie.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

SOUTH DAKOTA: Aberdeen, January 11-12. Sec., Dr. F. W. Freyberg, Mitchell.

VERMONT: Montpelier, January 10-12. Sec., Dr. W. Scott Nay, Underhill.

WISCONSIN: Milwaukee, January 10-12. Sec., Dr. John M. Beffel, 3200 Clybourn St.

Nebraska May and August Reports

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examinations held at Lincoln, May 23-24 and August 10-11, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75.

At the examination held May 23-24, 1910, the total number of candidates examined was 59, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Hahnemann Medical College of the Pacific	(1902)	82.7
Hering Medical College	(1910)	87.2
Washington University, St. Louis	(1910)	83.9
Lincoln Medical College	(1910)	77.5, 82.1, 83, 83.1, 83.4, 84.7, 85.1, 86.5, 87.9.
University of Nebraska, College of Medicine	(1910)	79.7, 80.9, 82.6, 84.4, 85, 85.5, 86.9, 87.2, 87.7, 88, 88.9, 91.
John A. Creighton Medical College	(1910)	75, 75, 75.6, 75.7, 76.6, 78, 78.1, 78.2, 78.6, 78.6, 78.9, 79.7, 80.2, 81.1, 81.6, 81.7, 82.2, 82.2, 82.5, 82.6, 83, 83.1, 83.2, 83.4, 83.4, 84.5, 84.6, 84.9, 85.2, 85.7, 86, 86.9, 87.7, 88.6, 88.7.

At the examination held Aug. 10-11, 1910, the total number of candidates examined was ten, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Phys. and Surg., Chicago	(1897) 80.7; (1910)	75.4
Bennett Medical College	(1910)	83.5
Ensworth Medical College	(1910)	77.4, 77.5
University Medical College, Kansas City	(1910)	83.4
Barnes Medical College	(1909)	75.4
Lincoln Medical College	(1910)	82.5
John A. Creighton Medical College	(1910)	80.5
University of Nebraska, College of Medicine	(1910)	82.6

Twelve candidates are reported as having been licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
University of Colorado	(1907)	Colorado
College of Phys. and Surg., Chicago	(1900) (1909)	Iowa
Rush Medical College	(1891)	Michigan
Drake University	(1909)	Iowa
Kentucky School of Medicine	(1907)	Kentucky
Tulane University of Louisiana	(1903)	Tennessee
St. Louis University	(1906)	Illinois
Washington University, St. Louis	(1903)	Missouri
John A. Creighton Medical College	(1904)	Iowa
Eclectic Medical Institute, Cincinnati	(1897)	Iowa
Medical College of Ohio	(1889)	Oklahoma

Arkansas November Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, November 8-9, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 24, of whom 8 passed and 16 failed. Nineteen candidates were licensed through reciprocity, including one osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	86.7
Tulane University of Louisiana	(1904)	77.5
Harvard Medical School	(1909)	86
University of Michigan, Dept. of Med. and Surg.	(1901)	87.3
Jefferson Medical College	(1902) 81.4; (1909)	85.5, 89.7
Queen's University, Kingston, Ontario	(1909)	87.4

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1910)	64.5, 71.5
College of Physicians and Surgeons, Little Rock	(1908) 64; (1910)	50.6, 68.6, 68.7.
St. Louis College of Phys. and Surg.	(1908) 73.5; (1909) 64	66.7
Barnes Medical College	(1910)	62
College of Physicians and Surgeons, Memphis	(1909)	66.5
Memphis Hospital Medical College	(1893) 53.4; (1910)	56.8
Vanderbilt University	(1888)	71.6
Meharry Medical College	(1910)	65.5, 73.8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1907)	Illinois
Physio-Medical College of Indiana	(1901)	Texas
University of Louisville	(1909)	Illinois
Kentucky School of Medicine	(1897)	Kentucky
University of Kansas	(1906)	Oklahoma
Tulane University of Louisiana	(1908) (2, 1910)	Louisiana
Barnes Medical College	(1900)	Oklahoma
Washington University	(2, 1910)	Missouri
St. Louis Woman's Medical College	(1895)	Indiana
Kansas City Medical College	(1898)	Kansas
Columbia University, College of Phys. and Surg.	(1889)	Vermont
Vanderbilt University	(1895)	Oklahoma
University of Tennessee	(1902)	Texas
Physio-Medical College of Texas	(1906)	Oklahoma
University of Texas	(1898)	Texas

Book Notices

Die experimentelle Chemotherapie der Spirillosen (Syphilis, Rückfallfieber, Hühnerspirillose, Frambösie). Von Paul Ehrlich und S. Hata. Mit Beiträgen von H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Kairo, und Dreyer, Kairo. Paper. Price, 6 marks. Pp 164, with 50 illustrations. Berlin: Julius Springer, 1910 Rebman Co., 1123 Broadway, New York City, Agents for the United States.

In this book we have accounts of the fundamental work which led to the introduction of salvarsan ("606") as a therapeutic agent, especially in syphilis. This work is based throughout on the principles of chemotherapy developed by Ehrlich to the effect that a medicine acts only on those cellular structures with which it unites. After long and arduous labors he finally has reached constructive results of the greatest therapeutic importance.

Hata describes succinctly the biologic experiments on which the chemotherapy of the spirilloses is based. For the purpose of these experiments spirilla of recurrent fever, of chicken spirillosis, and of syphilis were used. The action of various substances on spirilla, *in vitro* as well as in infected animals, was determined. The course of the experimental infections and the technic used are described fully. Of the stains tested some were found to be spirillocidal in the test-tube but without effect in the animal body; a large number of arsenical preparations were tested also, and in the course of this work the prompt spirillocidal effect of "606" in non-toxic doses was discovered. In the meantime it had been shown that syphilis was communicable to rabbits, and Hata found that salvarsan, in doses of 0.015 to 0.01 per kilo, promptly kills the spirochetes and hastens the healing of the lesions. The experiments show that the affinity of salvarsan for the spirochetes of syphilis is so great that they are easily destroyed in the animal body without danger to the latter.

In the part written by Ehrlich he discusses, with his usual clearness and brilliancy, the chemical origin of dioxydiamidoarsenobenzol and the chemotherapy of trypanosomiasis and their consequences, the work on which preceded that on the spirilloses. He lays especial stress on the value of his demonstration of the true constitution of atoxyl for the experimental construction of "606," the arsenical radical of which carries the spirillocidal function. When this book was issued, Ehrlich had at hand reports concerning more than 9,000 cases of syphilis which had been treated with salvarsan. Not a single case of blindness or of sudden loss of any other sense is noted. Only a single death in any way directly traceable to the remedy had occurred, and in that case it may have been due to shock incidental to the injection. On account of possible dangers Ehrlich cautions against the use of the remedy in patients with extensive degenerations of the central nervous system, with paresis and tabes, with heart disease, especially angina pectoris, and with aneurysm. The specific action of the remedy is shown not only by its wonderful effects on many of the lesions of syphilis but also by the apparently prompt development of antibodies which, in the case of women, pass into the milk and favorably influence congenital syphilis in nursing children. It has been found also that serum of a patient freshly cured or treated by "606" has a definite action on syphilis in both adults and children. It would seem that such effects indicate the development of antibodies, the stimulus to the formation of which is to be found in the disintegration of the spirochetes and the setting free of antigens. Ehrlich points out that the curative effects of "606" are superior to those of any other remedy in syphilis; a single injection accomplishes practically what mercurial treatment of from four to six weeks will do. He recommends that special attention be given to improvement in the method of administration, to the matter of dosage and the repetition of the injections, and to the discovery of combinations of remedies which would increase the action of "606."

In a short note Nichols (U. S. Army) describes experiments with "606" to test in animals its action on the *Spirochæta pertenuis*, the cause of frambesia. In twenty-four hours after the injection, no more spirochetes could be found and the animals so treated were promptly cured. He advocates a trial of the remedy in the human disease in the tropics.

Iversen (St. Petersburg) details observations on the treatment of recurrent fever with salvarsan; after an injection of 0.2 to 0.3 gm., the spirilla disappeared completely from the blood within four to ten hours, and at the same time the subjective symptoms permanently subsided. Intravenous injection was found to be painless and the results therefrom more prompt than after the painful intramuscular injection. Bitter and Dreyer (Cairo) report similar results, the number of cases treated being, however, smaller. Iversen concludes that the specific spirillocidal effect is marvelous; the spirilla being destroyed with mathematical accuracy without injury to the host, the process constituting a striking instance of a most effective *therapia sterilisans magna*.

From the reading of this book one receives a very definite impression that the introduction of salvarsan marks a permanent step in advance in the treatment not only of syphilis but also of other diseases, like recurrent fever, a step which in no sense is traceable to accident but to the direct result of systematic experimental work guided by genial theoretical conceptions.

A Treatise on Diseases of the Eye. By John E. Weeks, M.D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College (Medical Department of New York University). Cloth. Price, $6 net. Pp. 944, with 553 illustrations. Philadelphia: Lea & Febiger, 1910.

This recent candidate for text-book honors opens with a chapter on the development and comparative embryology of the visual apparatus—subjects too often neglected even in larger treatises on the eye and its diseases. A knowledge of the ordinary evolutionary steps through which the organ of vision passes, from the appearance of the primary optic vesicle to the full development of the organ, is necessary not only to a rational understanding of ocular pathology, but to an enlightened appreciation of physiologic optics. We are glad to see that these matters are as fully discussed as is consistent with the scope of a student's manual. There are several other chapters that demonstrate completeness in the treatment of ophthalmic subjects, among which are a description and a colored illustration of the chlamydozoön (not chlamydozoan, as entered in preface, text and index) of Prowazek and Halberstädter, a chapter devoted to special remedies, a full account of serotherapy as applied to eye diseases, and practical suggestions for the preparation of specimens for diagnosis in the search for microorganisms. The author furnishes plainly worded descriptions of the remedial measures and other subjects included in his thirty-one chapters, and has not burdened, obscured or padded the text with unnecessary matter. He has been fortunate in his selection of collaborators, who have written several attractive chapters. Among these are William N. Souter, who contributes the section on the "General Principles of Optics," and Alexander Duane, who writes on "Movements of the Eyeballs and Their Anomalies." The book has, however, the usual defects of its class—defective illustrations; and yet most of the colored plates and some of the black-and-white reproductions are a distinct improvement on those that do duty in the average text-book. Altogether, this treatise will be found to mirror the wide experience and independent views of its well-known author.

The Cause and Cure of Colds. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1 net. Pp. 147, with illustrations. Chicago: A. C. McClurg & Co., 1910.

There is a need for just such a book as this, which can safely be recommended to the laity. It is sensible, comprehensive and yet not discursive. It is gratifying to see the author admit the danger of drafts in the cause of colds. The slogan of some, who are carrying the fresh-air theory to the extreme, "Drafts do not cause colds," is on the one hand dangerous to health and on the other destructive of the poor victim's confidence in the adviser. Sadler places drafts where they belong as exciting causes and lays just weight on the more important underlying causes of overeating, underelimination, inactive skins, and improper habits of bathing, clothing, etc. Prophylaxis and treatment are clearly given, with the reasons for their effectiveness, and the patient is frequently reminded of the conditions which are serious enough to make it wise to have a physician's advice.

GYNÉCOLOGIE OPÉRATOIRE. Par Henri Hartmann, Professeur de Médecine opératoire à la Faculté de Médecine. Paper. Price, 18 francs. Pp 498, with 422 illustrations. Paris: G. Steinheil, 2, Rue Casimir-Delavigne 1911.

This volume is to be regarded as the personal experience of one of the leading operators in Paris rather than as a complete systematic exposition of the subject. Some topics are very inadequately considered and out of all proportion to their importance—for example, ectopic pregnancy. The book is therefore more fitted for specialists in gynecology than for students or general practitioners. The illustrations are numerous and for the most part satisfactory.

Medicolegal

Liability of Municipalities for Deaths from Typhoid Due to Negligence in Permitting Water Furnished to Become Contaminated

The Supreme Court of Minnesota holds, in an opinion filed December 23, 1910, in the cases of Delia Keever and Kate Flanagan, each as administratrix, against the City of Mankato, that the municipality was liable for its negligence in its private or corporate capacity, if it negligently allowed the water supply in its waterworks system to become polluted, causing deaths from typhoid fever.

The complaint alleged that the defendant, a municipal corporation, negligently allowed waters and the water supply in its waterworks system to become infected and polluted with poisonous substances "and large quantities of filth and sewage, all of which were saturated with the germs of diseases * * * and did carelessly, negligently * * * permit * * * filthy, foul and dangerous substances, common sewage and other filth to escape into and saturate the water supply"; that by reason thereof the water became imminently dangerous to life and health, of which the defendant had full notice and knowledge; that the plaintiff's intestate, a citizen and resident, used the water, contracted typhoid fever and died in consequence, etc. The defendant city demurred to the complaint, and its demurrer was sustained, but the order sustaining it is now reversed by the Supreme Court.

It is to be noted, the Supreme Court says, that the complaint in this case set forth not a mere action against the defendant to recover damages because the city failed to provide an adequate supply of pure water. The question here was whether the city was liable for, among other things, recklessly causing dangerous substances like common sewage and other filth to saturate its water supply and the wells, mains and appurtenances thereto.

The first essential question was whether the city was exempt because it was carrying out a governmental function, or whether it was liable because it operated the waterworks in its private or corporate function. The defendant naturally insisted that it was performing merely a governmental function. But the court holds that it was liable for its negligence in its private or corporate capacity, and was not exempt as carrying out a governmental function.

The defendant also insisted that the city could make no profit out of its operation of these waterworks. Doubtless this was in a general way true; at all events it might be here admitted. But the sequence which the defendant sought to draw did not at all follow: i. e. that therefore it should be exempted from all liability for mismanagement. For the city is liable for neglect in connection with its streets, sidewalks, and sewers, from which in their very nature no profit is or can be made. The city operates the waterworks for profit in the sense that it is voluntarily engaged in the same business which when conducted by private persons is operated for profit. The city itself makes a reasonable and varying charge. The undertaking is partly commercial. It is enough that the city is in a profit-making business.

Then the defendant insisted that it would not be sound policy to open the door and permit actions like the present to be maintained for the reason that as a result the defendant city as well as any other city would be liable at any time to have the same misfortune and would be bankrupted thereby. But the court must regard the defendant's figures as purely hypothetical. The question is one of general principles recognized by the law and not of the private views of court or counsel as to what the convenience or necessity of a particular city may dictate under particular circumstances. The general experience of public and private waterworks is that ordinarily their operation involves no such financial disaster as the defendant portrayed. It is obvious that a sound public policy holds a city to a high degree of faithfulness in providing an adequate supply of pure water. Nor does it appear why the citizens should be deprived of the stimulating effects of the fear of liability on the energy and care of its officials; nor why a city should be exempt from liability while a private corporation under the same circumstances should be held responsible for its conduct and made to contribute to the innocent persons it may have damaged.

The cases in which a city has been held responsible or irresponsible for damages by fire consequent on an inadequate supply of water are in a class of cases by themselves. From many points of view the rule holding the city liable for its negligence is not inconsistent with the rule there announced. The law does not undertake to achieve the impossible.

The defendant also urged that in no case has the city been held liable for negligence in the operation of its waterworks unless the act involved a trespass, or an invasion of a direct property right. Thus water escaping from a city reservoir runs onto another's property and does damage; this is trespass and there is liability. But if the escaping water should do damage to a person on a public highway there would be no trespass, but the law would recognize liability. Liability of the city is recognized in the case of streets and sidewalks which cannot properly involve trespass. Nor did the defendant show any reason for imposing liability in the case of trespass or the breach of insurance of safety which does not logically apply to cases of negligence. On general principles liability for negligence is more just and more generally recognized because it is based on culpability.

Lastly, the court holds that, on the assumption that the plaintiff's intestate could have maintained an action against the city had he lived, his administrator, or administratrix, could maintain an action under the Minnesota statutes.

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

The President, DR. JOHN P. LORD, Omaha, in the Chair

Officers Elected

The following officers were elected: president, Dr. Amos W. Abbott, Minneapolis; vice-presidents, Drs. A. E. Halstead, Chicago and William J. Frick, Kansas City, Mo.; secretary-treasurer, Dr. Arthur T. Mann, Minneapolis.

Kansas City, Mo., was selected as the place for holding the next annual meeting, Dec. 18-19, 1911.

Desmoid Tumors of the Abdominal Wall After Operation

DR. E. WYLLYS ANDREWS, Chicago: I have seen only two cases of desmoid tumor in several thousand abdominal operations, both of which followed herniotomies. Most of the cases on record followed pregnancy or injury of the fascia above the inguinal region. Unlike keloids, true desmoids are found in the fascia and aponeurosis, especially of the abdominal wall. Histologically desmoid tumors are pure fibromata of the hard white form, showing coarse whirls of cut fibers macroscopically, like uterine myomata, and spindle cells microscopically with numerous fibrillæ. The cells show oval nuclei. Myxomatous and even malignant degenerations may occur. Desmoid tumors should be removed by operation inasmuch as the tendency is to grow larger and occasionally to start degenerative retrograde or malignant changes.

DISCUSSION

Dr. J. Clark Stewart, Minneapolis: The point of greatest interest in Dr. Andrews' report is the analogy which he shows as to etiology between desmoid tumors and keloids. I doubt whether the term "desmoid" should be used. Originally desmoids were tumors of the posterior sheath of the rectus muscle, and I must differ with Dr. Andrews that these tumors are found in the majority of cases in the upper part of the abdomen. The majority of the reported tumors I have run across have been found in the lower half of the abdomen. They grow inward, so that ultimately they become covered only by peritoneum. They attain considerable size. Quite a number of the reported cases of desmoid tumors are undoubtedly sarcomatous, and it is hard to differentiate a sarcoma under the microscope from the ordinary desmoid. The after history of these cases has shown several times that they were sarcomas, yet I do not think there is any question about the malignancy of desmoid tumors as originally described.

Dr. A. E. Hertzler, Kansas City, Missouri: It is easy, I think, to fix the pathogenesis of these desmoid tumors. Any tissue which contains a large amount of the original substance, will, when irritated long enough, short of suppuration, give rise to this fibrous tissue hyperplasia. One sees the same tumors subperitoneally about the duodenum. They are histologically very much the same. Microscopically they differ from fibroma in that they are long, with large oval vacuolated cells, many round cells, and polynuclears. This point is sufficient to separate the desmoid tumor from the fibromatous tumor or any tumor analogous to sarcoma.

Dr. E. Wyllys Andrews: As to the identity of keloid and desmoid, keloid, although it appears in scar tissue, never involves anything but skin. Keloids are confined to the skin, no matter how great the size they may attain, and are movable and free.

Non-Suppurative Osteomyelitis

Dr. J. Clark Stewart, Minneapolis: Three distinct clinical conditions may be classed under this title. First, cases of osteomyelitis, in which owing to the non-virulence of the invading germ or to unknown conditions increasing the resistance of the individual, no necrosis is caused. There is no pus, no sequestrum, but instead there is great overproduction of bony tissue. These cases are quite common, regularly recognized and properly treated. Second, cases of injury, generally fracture, in which a small piece of bone is entirely separated and dies, forming about it a shell of dense new bone in which it lies until absorbed, but without suppuration. These cases differ from those of the first class in that the irritant is not bacterial, but a fragment of the third class differs from the others in that it has an insidious onset. The disease is essentially chronic, but progressive and is diagnosed and treated as rheumatism. The etiology seems to be unknown. Text-books on surgery term this condition "chronic osteoperiostitis," which is a misnomer, for the periosteum is normal. The characteristics pathologically are the transformation of the marrow cavity into a multicellular labyrinth filled with a tissue which macroscopically resembles red marrow, and subperiosteal production of bone which results in a fusiform enlargement, the new bone being spongy. Symptomatologically these cases are characterized by an insidious onset, so-called rheumatic pains, worse in damp weather and at night, with slight evening rise of temperature. What would ultimately happen to a case of this kind without operation can only be surmised. It seems probable that the bone would remain enlarged and painful until stirred up by a fresh injury or infection, when there would be suppuration. The diagnosis is easy, after syphilis is excluded. Tuberculous osteomyelitis causes cold abscess and sinus formation, while periosteal sarcoma is generally more rapid and can be eliminated by skiagrams. Fusiform enlargement of a long bone, increasing very slowly in size, with point pressure tenderness in various places, and slight afternoon temperature, is a characteristic picture. The treatment consists in curetting the bone each way until normal bone is reached, cleansing, and filling the cavity with Moorhof's wax.

DISCUSSION

Dr. D. S. Fairchild, DesMoines, Ia: I have seen a number of cases of this kind which seemed to have arisen from some injury which had been inflicted to the bone, with involvement of the periosteum to some extent, but the trouble seems to extend throughout the entire shaft of the bone, the tibia being most commonly affected because it is more subject to traumatism. In the cases I have seen the bone has been dense. In the recent cases where the disease has not been progressing for a long time the bone is softer, and when the medullary canal is examined it is found almost entirely occluded by the proliferation of this bony tissue. These cases are more like cases of osteitis in which the inflammation has extended not only into the medullary canal and from the periosteum, but into the bone substance itself, and in the cases of long standing the bone has been very dense so that when a gutter was tunnelled out, it required a considerable amount of chiseling to do so.

Dr. W. W. Grant, Denver: The diagnosis of these cases is not made early, and that is why we do not see more of them. I believe that there will be ultimately death of the part and either pus formed or sequestrum, and an involucrum. We saw these cases formerly much oftener than now, because no one thought of operation until there were several sinuses leading to the canal. To-day the diagnosis can be made earlier, and if it is, operation should be done earlier when the patient will be saved several months and years of suffering, and will get well with a better leg. It is necessary to exclude syphilis and tuberculosis especially in arriving at a proper diagnosis.

Dr. James E. Moore, Minneapolis: The principal difficulty in diagnosis is between non-suppurative osteomyelitis and chronic bone abscess. Therapeutic tests will eliminate syphilis. As a rule, syphilitic disease of the bone is bilateral, while non-suppurative osteomyelitis is usually unilateral. Chronic abscess of bone is likely to be limited to one end of the diaphysis, while the condition under discussion affects the entire diaphysis. The history of these cases is that of a low form of inflammation, with gradual enlargement, the principal symptom being pain, more particularly at night. When we operate, we find the main part of the bone proper eburnated, and the older surgeons amputated many of these limbs, showing how great the pain is at times. The modern treatment is that pointed out by the essayist.

Dr. Arthur T. Mann, Minneapolis: I have had two cases of this type of osteomyelitis in which I used the Moorhof wax. One patient was a girl, thirteen years of age, who had symptoms for two years. She had the usual symptoms of chronic osteomyelitis in the lower third of the tibia, the pain being worse at night, and the temperature sometimes running up to 102 F. At the end of two years, when I saw her, she had a fusiform swelling at the junction of the lower third of the tibia, which was very tender. She cried at night on account of the severe pain. On opening this there was a mass more dense than cancellous tissue, but much thinner than ordinary cortical bone, so that the cortex had thinned out and the medullary cavity had filled in. In the center there was pale granulation tissue. This tissue was scooped out and the cavity filled with Moorhof's wax, and the usual closure of the wound made. There was healing by first intention. The pain stopped immediately following the operation. There had never been suppuration.

Dr. William H. Magie, Duluth, Minn.: In a recent case I had previously troughed the bone. Recurrence took place four or five months later, when Dr. Judd, of Rochester, operated. Later the patient returned to me with all the symptoms reestablished. I found the tibia enormously enlarged for fully eight inches, so that the case looked like one of sarcoma. I adopted the plan of chiseling down at the extreme end of this enlargement, splitting it, removing one-half of the tibia, then I applied skin direct on the raw surface of the bone that I had left, after removing half of the diameter of the tibia for fully eight inches. The wound healed by first intention, and the pain was relieved immediately. The patient has been well since and is working with a lumber crew.

Dr. A. E. Hertzler, Kansas City, Mo.: I do not think we would make a mistake if we called this a desmoid tumor of the bone. In the chronic sclerosing type of bone disease we have a milder form of infection which produces an exudate which is capable of being organized, and not as in the more acute types which form an exudate which is not organized. Rather unconsciously, I suspect, in the use of Moorhof's bone plug, you are imitating, in a measure, a very mild type of infection. The iodoform produces an exudate which is capable of being thrown down into fibrin, and it is by active hyperemia acting on the substance which produces an exudate, after forming fibrin, that healing is brought about.

Dr. M. L. Harris, Chicago: In the cases belonging to the subgroup which has been described, there is no material enlargement of the bone, no condensation of the bony cortex. The disease usually affects the shaft of the bone. In the interior of the bone we find the red marrow which Dr. Stewart mentioned; it is very soft, almost semiliquid in some cases. These cases are characterized by extreme pain. The most interesting and typical case of that kind I saw was a man who had been treated for syphilis. He had visited several watering places in Europe, but returned to this country without being relieved. His pain was so severe that he was obliged to take morphin to afford relief. There was extreme pain in the shaft of the humerus. In these cases there is sensitiveness when the bone is percussed or when deep pressure is made. All that is necessary to do is to open the medullary cavity, remove a portion of the cortex and relieve tension.

(To be continued)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-15, 1910

The President, Dr. W. O. Roberts, Louisville, in the Chair

Officers Elected

The following officers were elected for the ensuing year: president, Dr. Rudolph Matas, New Orleans; vice-presidents, Drs. Guy Leroy Hunner, Baltimore, and J. Garland Sherrill, Louisville; secretary, Dr. William D. Haggard, Nashville; treasurer, Dr. William S. Goldsmith, Atlanta.

Washington, D. C., was selected as the place for holding the next meeting, in December, 1911.

The Importance of Preserving the Gall-Bladder

Dr. J. W. Long, Greensboro, N. C.: An analysis of eighty-six cases convinces me of the value of retaining the gall-bladder. Cholecystectomy should be done in the presence of new growths, especially primary carcinoma; also in gangrene when the whole thickness of the bladder-wall is involved, but not otherwise, since I have had several recoveries following drainage for gangrenous mucosa of the bladder. Infection and empyema are only relative indications for doing cholecystectomy, most patients doing well under cholecystostomy. The cystic duct obstruction always present in empyema is gradually overcome under the influence of drainage, and after a varying interval of one to seven days, in one instance fifteen days, bile begins to discharge through the duct. Stone impacted in the cystic duct is only a rare indication for cholecystectomy. Even perforation cannot be considered an absolute indication for cholecystectomy. Drainage is second in importance only to removal of stones. Removal of stones cannot cure a pancreatitis, but drainage does. Drainage is the *sine qua non* for curing the patient of the widespread sequelæ of gall-bladder infection. It is prudent in doing a cholecystectomy to leave a forceps rather than a ligature on the cystic duct in order to provide for a free flow of bile, should untoward symptoms arise. The gall-bladder is not a storage pouch for bile, but rather is an expansion tank for the bile-duct system. Its removal is always followed by dilatation of the ducts, even the nub of the cystic duct compensating for the loss of the expansion tank. Pure bile injected into Wirsung's duct causes pancreatitis, bile mixed with the bladder mucosa does not, a cogent reason for preserving this function. The only avenue through which to treat chronic pancreatitis is the bile-duct system, preferably through the gall-bladder.

DISCUSSION

Dr. Thomas S. Cullen, Baltimore: We have for several years made it a practice to drain all gall-bladders, except in those cases in which there is a suspicion of malignant disease, or in which there is empyema of such a character that it is impossible to drain satisfactorily, and the danger of removing the gall-bladder is not as great as that of infection from drainage.

Dr. Howard A. Kelly, Baltimore: Under no circumstances would I remove a gall-bladder that is apparently sound or even moderately diseased which evidently may easily recover with drainage; nor would I remove a gall-bladder in which there is any suspicion of trouble in the common duct or any pancreatic disease. It is best to remove a gangrenous gall-bladder or one that is suspected to be malignant.

Dr. J. Garland Sherrill, Louisville: There has been a tendency to do too radical operations in this region. I have saved a number of gall-bladders that were full of pus by drainage. The reparative power of the tissues is very great and the opening becomes patent in a short time, and drainage of bile free.

Dr. Randolph Winslow, Baltimore: I operated in a case some time ago in which the duct was evidently obstructed; although bile reappeared, it did not flow. However, in the course of time nothing but mucus came from the external opening; the gall-bladder was distended, and bile did not pass. There occurred stricture of the cystic duct which necessitated a second operation for the removal of the gall-bladder.

Dr. R. E. Fort, Nashville: In those cases in which we have a small contracted, rigid, friable gall-bladder, not larger than the finger, in which drainage cannot be instituted, I think it not only proper, but essential to do a cholecystectomy. There are cases in which we have common duct obstruction and it becomes necessary to do cholecystectomy, but in other cases it is not necessary to do this radical operation.

Dr. Bacon Saunders, Fort Worth: In these old chronic gall-bladder cases it is necessary to continue drainage sometimes for six weeks in order to get satisfactory results.

Dr. William B. Coley, New York City: When I remove a gall-bladder I institute drainage in the cystic duct and this does as much good to the pancreas as if we drained through the gall-bladder itself.

Dr. J. W. Long, Greensboro: In gall-bladder surgery, as in all other surgery, it is largely a matter of personal equation in deciding what is the best thing to do in the individual case.

Chronic Urethritis and Chronic Ureteritis Caused by Tonsillitis

Dr. Guy L. Hunner, Baltimore: Certain cases of chronic urethritis and chronic ureteritis heretofore of obscure origin are due to tonsillitis, although the great majority of these cases are due to gonorrhea, most of the cases of rheumatic urethritis of the older text-books being of this nature. Some cases can be traced to trauma and infection in childhood, or trauma and infection of non-gonorrheal character in the newly married. Other cases may possibly be due to onanism, and some may be classed as autoinfections, the short female urethra and the myriads of microorganisms normally present in the outer orifice being factors that would make autoinfection probable. After ruling out gonorrhea and these rarer causes of infection, there still remains a certain large percentage of chronic urethritis cases, which, in recent years I have associated with the rheumatic diathesis. In a large proportion of this class of cases the disease is due to infections or toxins from the tonsils, and the importance of this observation is appreciated only when we recognize that the urethritis cannot be cured permanently until the tonsils are thoroughly extirpated. Of the four operative cases, two had been treated for months without appreciable permanent benefit to the urethra, whereas after removal of the tonsils, one patient recovered promptly and has been well for fourteen months, after having had bladder trouble eight years. A second patient after removal of the tonsils, had an irritable spot in the base of the right fauces, which for seven months gave periods of sore throat, accompanied by rheumatic symptoms in the knees and urethritis symptoms. For the past four months the throat symptoms have been absent, and the joints and urethra are apparently well. The third patient had been treated on two occasions in the past nine years with prompt recovery from the urethral symptoms each time. When last seen in March, 1910, the tonsils were clipped with the tonsillotome, and the patient reports a return of all her symptoms soon after going home. The fourth patient had a tonsillectomy after two urethral treatments, so that no conclusions can be drawn in her case as to the futility of urethral treatments, without removal of the tonsils. She has apparently recovered after having had bladder trouble three years, although only four months have elapsed since the tonsillectomy. The fact that acute prostatic abscess sometimes follows inflammation of the tonsils suggests a possible relationship between the tonsils and certain chronic urethritis cases in males. These cases are often associated with chronic prostatitis, in which gonorrhea can be excluded as the cause, and for which no definite etiology has heretofore been obtainable.

DISCUSSION

Dr. J. M. Mason, Birmingham: All the cases reported have occurred in unmarried women in whom there is some possibility of nervous disturbance or reflex irritation of the urethra. I would like to ask Dr. Hunner whether he has had any cases in married women or in women whose sexual relations are normal.

Dr. G. R. Holden, Jacksonville: Did the discharge in these cases contain pus cells as seen by the microscope?

Dr. Howard A. Kelly, Baltimore: The wife of a professional colleague had been under my care for fifteen years. She had more or less malaise. Careful examination revealed pus in the urine in varying amounts, but so far as the local conditions were concerned, the patient was without symptoms. She was in ill health. I catheterized and found pus coming from the left kidney. I dilated the ureter on that side, washed out the kidney, she got better, and after a few months returned for further investigation and treatment. She had for twelve years been troubled with rheumatism. She had enlargement of the joints. Last spring, in examining her, I found a large, tender kidney, with a good deal of pus in the urine. I drained this kidney, and did a plastic operation on the semilunar ureteral valves. I cut down on the fascia at the end of the ureter and drained from the side. She continued to suffer with rheumatism through the summer, although she experienced some relief from the drainage in the side. This fall I took out the kidney and her rheumatism disappeared.

Dr. John F. Oechsner, New Orleans: It seems from the cases cited that the tonsils were at fault. I fear, however, that what has been said may lead to more or less universal tonsillectomy; if we regard the tonsils as always at fault in cases of urethritis, where the specific organism, the gonococcus more particularly, cannot be determined. I would, therefore, make a plea to educate the practitioner to be more specific in determining the nature of a local infection, whatever it may be, and find out exactly where the focus of infection is.

Dr. Guy L. Hunner, Baltimore: Some of my patients were married women. They did not have pus in the urine. You cannot milk pus out of the urethra as you can in an acute gonorrheal case.

The Best Method of Exposing the Bladder for Aggressive Operations by the Suprapubic Route

Dr. Howard A. Kelly, Baltimore: I make a transverse crescentic incision above the pubis out to or even beyond the semilunar line on each side. I then separate the fascia from the muscles after the manner proposed by Pfannenstiel for operations on abdominal and pelvic tumors. In bladder cases, however, the abdominal cavity is not opened. The recti muscles, freed from their overlying fascia, are flaccid and easily drawn apart, thus affording a very broad exposure of Retzius' space. The bladder is brought into view by inflation with air and is widely incised in its transverse axis; thus, all parts of the organ are perfectly exposed to view and made easily accessible to operation. The whole question of dealing with extensive ulcers, papillomata, malignant disease and cystitis requiring resection is by this means greatly simplified. Further help in bringing the base of the bladder up within reach may be secured by introducing two fingers into the vagina in women and pushing the anterior wall upward. At the conclusion of the operation, the bladder is closed with fine silk or catgut sutures, the investing fascia is also carefully united with catgut or silk, and the rest of the abdominal wound closed, in suitable cases leaving a small drain extending down to or into the bladder.

DISCUSSION

Dr. J. S. Horsley, Richmond, Va.: For more than a year I have been using the Pfannenstiel incision as a routine measure in all suprapubic cystotomies. It takes very little more time than the ordinary incision and it leaves the abdominal wall in a much better condition afterward.

Dr. Ernst Jonas, St. Louis: The Pfannenstiel incision gives a very good view of the bladder. This incision was advocated for clean gynecologic cases where there is no pus in the pelvis, and not for cases in which the pelvis is badly infected.

Dr. Reuben Peterson, Ann Arbor, Mich.: The Pfannenstiel incision is only suitable for clean cases. While the technic demonstrated by Dr. Kelly is fine for clean cases, I can see objection to this incision in suppurative cases.

Dr. George H. Noble, Atlanta, Ga.: I have made use of the transverse or Pfannenstiel incision quite frequently in cases in which I did not expect to encounter a septic process, both in placing the uterus in its normal position and in opening the bladder. A point I want to bring out especially is, that in this dissection you can increase the opening very materially and satisfactorily by making a section of the lower ends of the recti muscles, where necessary. This is particularly the case where you want to open the pelvis to go into the peritoneum.

Dr. Alexander Hugh Ferguson, Chicago: I can see how this method of exposing the inside of the bladder would be of great utility to those surgeons who practice suprapubic prostatectomy; also in removing papillomata to avoid the ureter. We must remember that there is no fascia behind the rectus muscle in this region, and that it retracts easily and acts as a bar to infection in the operative area.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

December 22

1 *Care and Management of the Tabetic Bladder. J. D. Barney, Boston.
2 *Case of Bilharziasis with Appendicitis. C. G. Lane, Woburn, Mass.
3 Tuberculosis Among the Philippine Scouts (Native Troops) of the United States Army. I. W. Brewer, U. S. Army.

1. **Care of Tabetic Bladder.**—According to Barney, trabeculation of the bladder in tabes is found in more than 80 per cent. of cases, and may occur before any symptom or other sign of vesical disturbance. In tabetic bladders it is found in the fundus and side walls only, in typical cases. It is more delicate and regular than that seen with mechanical obstruction. Probably it is due to a primary detrusor hypertrophy. Residual urine is found in more than 70 per cent. of the patients, often before any symptoms begin. In over 50 per cent. of all cases the urine is infected. Cystoscopy is generally a painless procedure, a fact which is of some diagnostic value. Urinary disturbances, variable in character, are observed in over 90 per cent. of all patients with tabes.

2. **Bilharziasis.**—Lane reports a case of both intestinal and genito-urinary bilharziasis, complicated with acute appendicitis. Sections of the appendix showed many bilharzia ova in the wall. A review of the reported cases brings out the fact that there are only five undoubted cases of the South

African *Bilharzia hematobia* among them. Investigation shows that the lateral spined ova may belong to one species of bilharzia and the terminal spined to another.

New York Medical Journal

December 24

4 The Law of Degeneracy in Its Relation to Medicine. C. P. Noble, Philadelphia.
5 Psychotherapy—Its Uses and Abuses. E. D. Fisher, New York.
6 Pulmonary Tuberculosis as Studied in the General Medical Dispensary. E. J. G. Beardsley, Philadelphia.
7 Ear Disease and Its Prevention. A. Bardes, New York.
8 Prevention of Abortion. C. Rosewater, Omaha, Neb.
9 Removal of the Faucial Tonsils Followed by Exophthalmic Goiter. C. J. Kœnig, Paris.
10 Liquid Air and Carbonic Acid Snow. J. D. Gold, Bridgeport, Conn.
11 The Dislocated Puerperal Uterus. W. L. Marsden, Burns, Ore.
12 Magic and Medicine: A Study in the Borderland of Light and Darkness. J. Knott, Dublin, Ireland.

Medical Record, New York

December 17

13 Salvarsan. M. S. Kakels, New York.
14 Intussusception of the Appendix. A. V. Moschcowitz, New York.
15 Typhoid Spine. N. B. Potter, New York.
16 *Stab Wound of the Heart. J. F. Erdmann, New York.
17 Spontaneous Rupture of a Glaucomatous Eyeball. B. Chance, Philadelphia.
18 Heart Stimulants Used During Fevers with a Recommendation of the Precordial Compress. W. L. Secor, St. Petersburg, Fla.
19 *Chancroids Due to Mercury Bichlorid. W. J. Robinson, New York.

December 24

20 Neurology in Zurich. E. W. Scripture, New York.
21 Immunity Reactions as Products of Natural Selection. R. G. Eccles, Brooklyn.
22 Probable Duration of Life. A. H. Stewart, Lawton, Okla.
23 *Treatment of Paralysis Agitans with Parathyroid Gland. W. N. Berkeley, New York.
24 A Case of Pyloric Obstruction. A. Goldman, New York.
25 A Simple Clinical Method for Measuring the Diameter of the Pupil. T. A. Williams, Washington, D. C.

16. **Stab Wound of the Heart.**—A man received a stab wound in the chest, made by a knife three-quarters of an inch wide by 6 inches long. The puncture—three-quarters of an inch long—was on the right side of the chest, 1¾ inches to the right of the median line, penetrating the fifth costal cartilage obliquely, and splitting its lower three-quarters. The distance from the left nipple was 6 inches to the right of the median line and on a line 1¼ inches below the right nipple. The patient was received at the hospital shortly after the injury, stating that he struck his assailant a blow and knocked him down subsequent to his being stabbed. His condition at the time Erdmann saw him was one of profound shock. The heart sounds were distant and almost imperceptible. The patient complained of constant abdominal pain, and on palpation he was found to be exceedingly tender on the right half of the abdomen. On percussion, dulness and flatness extended over this entire region, being particularly marked in the upper half.

An exploration was begun at the angle between the seventh costal cartilage and the ensiform process. On reaching the peritoneum a deep blue-black appearance, such as is seen in extrauterine pregnancy with rupture, was observed. The exploration was then extended 2 inches further in the abdominal wall and the peritoneum opened, when the dark blue mass was seen to be the liver, driven downward 4 inches below the costal margin. It was deeply cyanotic. The peritoneal cavity and the dome of the liver were explored and nothing found to indicate puncture. The seventh costal cartilage was then raised, the diaphragmatic musculature was detached, and the cartilage cut at its juncture with the rib. The sixth, the fifth, and the fourth were also cut through. A retractor was placed on the cartilages, the skin raised from the sternum at the upper limit of the incision, and the sternum cut through at the upper limit of the incision with a pair of bone-cutting forceps. On raising the flap, a hole admitting the index finger was found penetrating the pericardium, and a similar hole was found in the right ventricle. An exposure was made 4 inches in length. The palm of the hand above and the thumb below grasped the heart, while the index finger was retained within the ventricle. A curved needle, threaded with No. 2 plain catgut, was then placed down to the heart, and during a systole a puncture was made, irrespective of penetrating the cavity or not. As soon as the needle had pierced one side of the incision, the finger was withdrawn and the needle made to make its exit from the opposite side. A knot was tied and the heart held dangling from this suture. The subsequent stitches—eight or ten in number—were readily placed, one more being placed in the line of the heart wound proper, and two more rows placed after the manner of Lembert. A long cigarette drain was placed in the pericardial cavity, and the incision in the pericardium closed up to the emergence of the drain, which was led out at the angle of the seventh costal cartilage and the sternum. Catgut stitches were taken in the costal cartilages between them and the ribs. Nothing was done to the sternum, except to hold it in place by the dressings after the skin wound was sutured. The patient was back in bed in about thirty minutes, and was out of bed and well on the fourteenth day.

19. **Chancroids Due to a Peculiar Cause.**—In Robinson's case a bichlorid tablet inserted in the vagina proved sufficiently irritating to cause the formation of ulcers.

23. **Treatment of Paralysis Agitans.**—Berkeley is of the opinion that paralysis agitans has all the marks of a chronic toxemia. The symptoms following parathyroidectomy are remarkably like those of paralysis agitans. In cases of myxedema and exophthalmic goiter, paralysis agitans has not infrequently occurred as a complication or sequela. Of fourteen reported autopsies on paralysis agitans, eleven showed negative parathyroid glands, three showed distinct pathologic changes; and lastly, a remarkable percentage of patients with paralysis agitans treated with properly identified fresh gland, or a properly made extract, have been greatly benefited. Berkeley's first patients were treated with commercial parathyroid gland. This worked well in a few cases, but was found so variable and uncertain in its action that it had to be given up. He next tried a preparation of properly identified gland rubbed up in the crude fresh state to a dry powder with milk sugar. This was distinctly better, but still seemed to be variable and unstable. Later, he tried a nucleoproteid solution of the parathyroid made up by Beebe's method and preserved with a few drops of chloroform in the bottom of each bottle. This has still further raised the percentage and degree of improvement, but it precipitates rapidly, and is susceptible to damage from temperatures above 5 C., therefore hardly admitting of transportation to any great distance. His latest process is this: The nucleoproteid extraction process (Beebe's method) is adhered to generally, but all the preliminary steps are hurried, and the precipitated nucleoproteid is not redissolved, but quickly dried in a draught of cold air; so that within eight or ten hours after the warm glands leave the bullock a minute amount of smooth yellow powder is obtained which stands physiologic tests admirably, is stable, easily handled, and does not require a freezing temperature (though for safety's sake it is recommended to keep it on ice). The powder is rubbed up with milk sugar as a menstruum and is placed in sealed containers.

American Journal of Public Hygiene, Columbus, Ohio

November

26 Hygiene of the Swimming Pool. J. W. M. Bunker.
27 Spread of Scarlet Fever and Diphtheria in Schools. C. V. Chapin, Providence, R. I.
28 Water Analysis and the Public Health. D. G. Revell, Edmonton, Alberta.
29 Functions of a Public Health Laboratory. D. G. Revell, Edmonton, Alberta.
30 Germicidal Value of a Few "Commercial" Coal-Tar Disinfectants. F. H. Slack and E. M. Wade, Boston.
31 A New Form of Anaerobic Jar. S. H. Ayers, Washington, D. C
32 Social Economics and Public Health. E. Seidel, Milwaukee.
33 Cholera. M. J. Rosenau, Boston.
34 Infantile Paralysis. R. W. Lovett, Boston.
35 Municipal Sanitation. C V. Chapin, Providence, R. I.
36 Personal Hygiene. P. G. Stiles, Boston.

American Journal of Medical Sciences, Philadelphia

December

37 *Pleurisy as a Complication and a Sequel of Lobar Pneumonia; Its Diagnosis and Treatment. J. M. Anders, Philadelphia.
38 *Use of the Soy Bean as a Food in Diabetes. J. Friedenwald and J. Ruhräh, Baltimore.
39 *Auscultatory Signs of the Respiratory System. J. H. Barach, Pittsburg.

40 *Clinical Method of Estimating the Coagulation Time of the Blood. R. D. Rudolf. Toronto, Canada.
41 *Clinical Significance of Transitory Delirium Cordis. G. H. Fox, Ann Arbor, Mich.
42 Erythremia or Polycythemia with Enlarged Spleen and Chronic Cyanosis. E. C. Seufert, Chicago.
43 *Tuberculosis and Menstruation. D. I. Macht, Baltimore.
44 Smooth Atrophy of the Base of the Tongue. D. Symmers, New York.
45 Syndrome of Sphenopalatine Ganglion Neurosis. G. Sluder, St. Louis.
46 *Clinical Value of the Cammidge Reaction. L. C. Kinney, Philadelphia.
47 Determination of Chlorin and the Purin Bodies in Urine. R. W. King, Las Animas, Colo.

37. Abstracted in The Journal, July 9, 1910, p. 155.

38. **Soy Bean as a Food in Diabetes.**—The most striking point about the soy bean is the fact that it contains no starch, or, at least, a very small quantity, which is strange when one considers it resembles the various beans very closely, and all other varieties are extremely rich in starchy materials. As it contains no starch, it is exceedingly difficult to make a bread without the introduction of a certain amount of some other flour, but Lecerf, a French pharmacist, is said to have made a bread which resembled somewhat ginger bread, which was not at all disagreeable, and which contained no starch whatever or a very small percentage. Lailleux is said to have treated a number of cases of diabetes in Algiers with the soy bean with admirable results. The experience of Friedenwald and Ruhräh with the soy bean in diabetes extends over a series of eight cases. The beans may be taken as a vegetable by soaking them for from twelve to sixteen hours, until the skins come off, and stirring until the skins rise to the surface and can be removed. They are then boiled in salt water or with bacon until soft, and seasoned with pepper, salt and butter and served hot. When the bean is not available the gruel flour from the soy bean is even more serviceable. Each ounce of this soy gruel flour yields about 13 grams of protein and 120 calories, and there are several ways in which it can be used: 1, As a gruel; 2, in broths: 3, in making biscuits.

In the study of the authors' eight cases of diabetes, the patients were placed, first, on an unlimited diet; second, on the restricted (usual diabetic) diet; and third, on restricted diet, together with the soy bean. The soy bean replaced largely the gluten of wheat bread, while the patient still remained on the usual diabetic diet. In nearly every instance there was a marked diminution in the glycosuria.

39. **Auscultatory Signs of the Respiratory System.**—Barach calls attention to certain findings relative to the conduction of auscultatory sounds by the bony framework of the chest. The first observation is, that typical bronchial breathing may be heard at the acromion end of the clavicle. By placing the bell of the stethoscope over this area and having the patient make deep respiratory efforts, typical bronchial breathing will be heard. Not only is bronchial breathing heard, but the spoken and whispered voice sounds are transmitted clearly. These auscultatory findings are present in nearly all chests and are heard especially well in those persons who do not have a thick subcutaneous and fatty covering. In the normal individual they are usually heard with more distinctness on the right side than on the left. Very often the bronchial sound is transmitted to, and may be distinctly heard by applying the stethoscope over the occipital and other bones of the cranium. It may also frequently be heard below the fifth dorsal vertebra. These observations prove conclusively to Barach that the bony framework of the chest is capable of transmitting auscultatory signs from points near their source of origin to distant points on the contour of the chest.

40. **Coagulation Time of the Blood.**—The chief object of Rudolf's communication is to advocate and describe a method of measuring the coagulation time of the blood which is convenient clinically and which seems to give reliable results. Thin glass tubes 1.5 mm. in diameter and about 7 inches in length are used. A pint thermos bottle is employed, and its ordinary cork is replaced by a rubber cork perforated in three places. In these perforations rest two brass tubes, 7 inches long and just large enough in caliber to hold easily the glass blood-tubes. The third perforation in the cork contains a thermometer. The apparatus rests on its side on a special stand, which prevents it rolling about. The bottle is filled with water at the temperature at which it is desired to work, say 20 C., and the cork put in position. The temperature of the contents will remain for fully an hour at the same point in a room of 55 F. or more.

The back of the finger or thumb near the nail is cleansed with soap and water and then with alcohol. As soon as it is dry the digit is wrapped about with a piece of twine loosely and at once punctured, the exact time of puncture being noted. Two glass tubes are partially filled from the same drop, the blood being made to run nearly to the far end of each, and each as filled is placed in a brass tube of the thermostat, the first in that to the left and the other in that to the right. Then the protruding ends, which are the ends at which the blood entered the tubes, are sealed at one's leisure with a spirit lamp. If the test is being made on an apparently healthy individual, in about five minutes the first tube is drawn out of its holder by the left hand (which is covered with a thick glove, in order that the heat of the fingers may less affect the tube) and touched with a glass-file and broken across between one's fingers and thumbs, and the broken ends are slowly separated. Probably the blood-column also breaks across sharply, if one may so speak of a column of fluid. The tube is at once replaced in the thermostat. In half a minute the second tube is removed and treated in the same way. Soon on breaking the tube across and separating the ends a thread of fibrin appears between the broken ends. At once the tube is broken farther on, and probably the thread of fibrin again appears. Very rarely a thread appears at the first break and not at the next one. This would be counted as a negative finding, and the tube would be at once replaced in the thermostat and tried again in fifteen seconds. If one is careful to begin the breaking at the first blood which entered the tube, such a thing seldom happens. One of the alternating tubes having given a positive finding, the other one almost certainly will do so in the next half minute, but if not, then usually in the next. With quick working one can try them every quarter of a minute, but the half-minute intervals give more time to make sure that a given tube has really coagulated, as it can be broken several times before the next one is due.

The temperature at which the experiment is carried out makes a marked difference in the results. This difference is about one minute for each degree centigrade. At 20 C. (68 F.) the average coagulation time is about eight and one-half minutes. Age (beyond early childhood) and sex seem to have no influence on the coagulation time. A diurnal variation does not seem to occur; possibly there is a slight increase in coagulability as the day advances, but this is probably due to experimental error. There appears to be a slight tendency to decrease in the coagulability about two hours after a meal, but it is too slight to put much weight on. Calcium lactate does not appear to have any marked influence on the coagulation time of the blood of normal individuals. Citric acid appears to have a slight retarding influence on the coagulation. Considerable variation occurs in the coagulation time of a healthy individual from time to time, the nature of which is not evident.

41. **Transitory Delirium Cordis.**—Of six patients in whom transient attacks of delirium cordis were observed by Fox, five eventually developed the permanent type of irregularity. Many features of the attacks themselves would suggest a nervous condition, especially the onset under excitement and the complete recovery between attacks with no demonstrable heart changes. The prognosis, however, should be guarded and efforts made to avert the onset of permanent irregularity, which is practically always accompanied by symptoms of cardiac insufficiency.

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40 *Clinical Method of Estimating the Coagulation Time of the Blood. R. D. Rudolf, Toronto, Canada.
41 *Clinical Significance of Transitory Delirium Cordis. G. H. Fox, Ann Arbor, Mich.
42 Erythremia or Polycythemia with Enlarged Spleen and Chronic Cyanosis. E. C. Seufert, Chicago.
43 *Tuberculosis and Menstruation. D. I. Macht, Baltimore.
44 Smooth Atrophy of the Base of the Tongue. D. Symmers, New York.
45 Syndrome of Sphenopalatine Ganglion Neurosis. G. Sluder, St. Louis.
46 *Clinical Value of the Cammidge Reaction. L. C. Kinney, Philadelphia.
47 Determination of Chlorin and the Purin Bodies in Urine. R. W. King, Las Animas, Colo.

37. Abstracted in The Journal, July 9, 1910, p. 155.

38. **Soy Bean as a Food in Diabetes.**—The most striking point about the soy bean is the fact that it contains no starch, or, at least, a very small quantity, which is strange when one considers it resembles the various beans very closely, and all other varieties are extremely rich in starchy materials. As it contains no starch, it is exceedingly difficult to make a bread without the introduction of a certain amount of some other flour, but Lecerf, a French pharmacist, is said to have made a bread which resembled somewhat ginger bread, which was not at all disagreeable, and which contained no starch whatever or a very small percentage. Lailleux is said to have treated a number of cases of diabetes in Algiers with the soy bean with admirable results. The experience of Friedenwald and Ruhräh with the soy bean in diabetes extends over a series of eight cases. The beans may be taken as a vegetable by soaking them for from twelve to sixteen hours, until the skins come off, and stirring until the skins rise to the surface and can be removed. They are then boiled in salt water or with bacon until soft, and seasoned with pepper, salt and butter and served hot. When the bean is not available the gruel flour from the soy bean is even more serviceable. Each ounce of this soy gruel flour yields about 13 grams of protein and 120 calories, and there are several ways in which it can be used: 1, As a gruel; 2, in broths; 3, in making biscuits.

In the study of the authors' eight cases of diabetes, the patients were placed, first, on an unlimited diet; second, on the restricted (usual diabetic) diet; and third, on restricted diet, together with the soy bean. The soy bean replaced largely the gluten of wheat bread, while the patient still remained on the usual diabetic diet. In nearly every instance there was a marked diminution in the glycosuria.

39. **Auscultatory Signs of the Respiratory System.**—Barach calls attention to certain findings relative to the conduction of auscultatory sounds by the bony framework of the chest. The first observation is, that typical bronchial breathing may be heard at the acromion end of the clavicle. By placing the bell of the stethoscope over this area and having the patient make deep respiratory efforts, typical bronchial breathing will be heard. Not only is bronchial breathing heard, but the spoken and whispered voice sounds are transmitted clearly. These auscultatory findings are present in nearly all chests and are heard especially well in those persons who do not have a thick subcutaneous and fatty covering. In the normal individual they are usually heard with more distinctness on the right side than on the left. Very often the bronchial sound is transmitted to, and may be distinctly heard by applying the stethoscope over the occipital and other bones of the cranium. It may also frequently be heard below the fifth dorsal vertebra. These observations prove conclusively to Barach that the bony framework of the chest is capable of transmitting auscultatory signs from points near their source of origin to distant points on the contour of the chest.

40. **Coagulation Time of the Blood.**—The chief object of Rudolf's communication is to advocate and describe a method of measuring the coagulation time of the blood which is convenient clinically and which seems to give reliable results. Thin glass tubes 1.5 mm. in diameter and about 7 inches in length are used. A pint thermos bottle is employed, and its ordinary cork is replaced by a rubber cork perforated in three places. In these perforations rest two brass tubes, 7 inches long and just large enough in caliber to hold easily the glass blood-tubes. The third perforation in the cork contains a thermometer. The apparatus rests on its side on a special stand, which prevents it rolling about. The bottle is filled with water at the temperature at which it is desired to work, say 20 C., and the cork put in position. The temperature of the contents will remain for fully an hour at the same point in a room of 55 F. or more.

The back of the finger or thumb near the nail is cleansed with soap and water and then with alcohol. As soon as it is dry the digit is wrapped about with a piece of twine loosely and at once punctured, the exact time of puncture being noted. Two glass tubes are partially filled from the same drop, the blood being made to run nearly to the far end of each, and each as filled is placed in a brass tube of the thermostat, the first in that to the left and the other in that to the right. Then the protruding ends, which are the ends at which the blood entered the tubes, are sealed at one's leisure with a spirit lamp. If the test is being made on an apparently healthy individual, in about five minutes the first tube is drawn out of its holder by the left hand (which is covered with a thick glove, in order that the heat of the fingers may less affect the tube) and touched with a glass-file and broken across between one's fingers and thumbs, and the broken ends are slowly separated. Probably the blood-column also breaks across sharply, if one may so speak of a column of fluid. The tube is at once replaced in the thermostat. In half a minute the second tube is removed and treated in the same way. Soon on breaking the tube across and separating the ends a thread of fibrin appears between the broken ends. At once the tube is broken farther on, and probably the thread of fibrin again appears. Very rarely a thread appears at the first break and not at the next one. This would be counted as a negative finding, and the tube would be at once replaced in the thermostat and tried again in fifteen seconds. If one is careful to begin the breaking at the first blood which entered the tube, such a thing seldom happens. One of the alternating tubes having given a positive finding, the other one almost certainly will do so in the next half minute, but if not, then usually in the next. With quick working one can try them every quarter of a minute, but the half-minute intervals give more time to make sure that a given tube has really coagulated, as it can be broken several times before the next one is due.

The temperature at which the experiment is carried out makes a marked difference in the results. This difference is about one minute for each degree centigrade. At 20 C. (68 F.) the average coagulation time is about eight and one-half minutes. Age (beyond early childhood) and sex seem to have no influence on the coagulation time. A diurnal variation does not seem to occur; possibly there is a slight increase in coagulability as the day advances, but this is probably due to experimental error. There appears to be a slight tendency to decrease in the coagulability about two hours after a meal, but it is too slight to put much weight on. Calcium lactate does not appear to have any marked influence on the coagulation time of the blood of normal individuals. Citric acid appears to have a slight retarding influence on the coagulation. Considerable variation occurs in the coagulation time of a healthy individual from time to time, the nature of which is not evident.

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who also had tuberculous cervical glands. In all, 649 patients were operated on, on one side at a time. Of these, nineteen have since died of pulmonary tuberculosis, and nine have died of tuberculous lesions elsewhere. Ten of the patients had pulmonary tuberculosis at the time of the operation. In operating on these individuals, it has been the aim to do a thorough and radical excision of the groups involved. Having made the incision from the mastoid to the clavicle, the skin and platysma are reflected well forward and backward. The sternomastoid is not cut except a few posterior fibers of its upper attachment on the mastoid process. The entire posterior border of this muscle is freed and the fascia dissected from it. The dissection is started at the lower angle underneath the clavicular attachment. The omohyoid pulley is exposed and this is the lowest point of the dissection. The glands are all left together in the fascia as much as possible. Care should be taken to avoid important nerves. Lymphatic glands within the parotid should be shelled out in a manner that will not interfere in any way with the branches of the seventh nerve.

Having completed the dissection, if caseous material has soiled the wound, it should be mopped out with tincture of iodin well diluted with water; or, as suggested by von Eiselsberg, the entire wound may be mopped for an instant with boiling water. Drainage should be provided through a stab incision; preferably, a small rubber tube split spirally. This drain is for the purpose of withdrawing serum and is removed in from 24 to 48 hours. The platysma muscle is carefully sutured with fine catgut, and the skin edges approximated by a subcuticular suture approximating as much of the cut of the skin as possible, giving the appearance of a ridge. A rather small, snugly fitting gauze dressing is used. The next day the patient is gotten up and encouraged to move the head freely to prevent any stiffening of the muscles. From this time general outdoor treatment is advised. In this series of cases there has been no mortality due directly to the operation. One patient died a few weeks after the operation of general tuberculosis, and a second died in about three months from diffuse sepsis.

61. **Sarcoma of the Clavicle.**—In view of the favorable results obtained in the few cases of sarcoma of the clavicle, and the much larger number of cases of sarcoma of the long bones in general, by the use of the mixed toxins of erysipelas and *Bacillus prodigiosus* immediately after operation, as a prophylactic, Coley believes that such use would seem to be strongly indicated as a routine measure. The histories of sixty-three cases are given in full.

63. **Appendicitis and Associated Disturbances.**—The possibility of an etiologic relationship between the appendix and pathologic conditions in the stomach, duodenum, liver, bile passages and pancreas arose as the result of an investigation by MacCarty and McGrath of the embryology, anatomy and physiology of these organs in view of clinical experience and pathologic findings in studying the material from 216 gastrectomies, 365 cholecystectomies, 5,000 appendectomies, three duodenal ulcers and the experimental experience of Cannon, Litthauer, Tsunoda, Roger, and others, all of which, when taken together, strongly suggest that the appendix is at least a part of the etiology of conditions which have been and are being treated as local conditions but which may possibly arise secondarily. Autopsy has shown that duodenal ulcers when they occur at or near the papilla of Vater are sometimes, if not always, associated with cholecystitis, and occasionally with chronic interstitial hepatitis (cirrhosis). Clinical experience presents strong evidence that there are gastric disturbances which are relieved and often completely dissipated by the removal of the appendix. Examination of the appendices removed in association with "pyloric spasm," gastric and duodenal ulcers, cholecystitis and cholelithiasis shows that there is a higher percentage of appendices with partially or completely obliterated lumina in all of these conditions, than at general autopsy or at operations for appendicitis. It was found that of 365 patients in whom cholecystectomy was performed, 13 per cent. gave definite histories of pain and soreness in the region of the appendix. In fifty-nine of these patients with cholecystitis the appendices were removed and 69 per cent. showed undoubted gross or microscopic evidence of inflammation, varying from a chronic catarrhal condition to complete obliteration and periappendicitis.

In the examination of 2,000 appendices with the histories, 52 per cent. of 175 patients with cholecystitis with and without stones gave histories of pain in the region of the appendix. In 1,147 histories, which include all the cases of appendicitis and appendices removed during operations, for conditions other than cholecystitis with or without stones, there was a history of pain in the epigastrium or right hypochondrium in 13 per cent. In 9.4 per cent. there was pain in the abdomen and in 14.6 per cent. pain in the abdomen was radiated to and became localized in the region of the appendix.

64. Abstracted in THE JOURNAL, July 30, 1910, p. 430.

66. **Treatment of Undescended Testicle.**—Moschcowitz has operated on eighteen patients by the Bevan method. Primary union resulted in every instance; there is no recurrence of the hernia; the testicle is freely movable and in the very bottom of the scrotum. In other words, he says, all these patients can be legitimately regarded as completely cured, so far as the descent of the testicle and the hernia is concerned.

American Medicine, Burlington

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69 The Cystoscope in Practice. E. W. Pinkham, New York.
70 A Life of Intense Suffering and of Unrealized Aims Due to Eyestrain. G. M. Gould, Ithaca, N. Y.
71 Goiter and Its Treatment. J. W. Solow, Brooklyn, N. Y.
72 Myxosarcoma of the Right Frontal Lobe; Extensive Degeneration in Cord. G. E. Price, Philadelphia.
73 A Sanatorium School for Consumptives. D. L. Sohn, New York.
74 Physiologic Action and Standardization of Digitalis. O. Hensel, New York.

Cleveland Medical Journal

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75 *Psychoses Associated with Acute Infectious Diseases. A. M. Barrett, Ann Arbor, Mich.
76 Trend of Modern Research on the Nature of Ferment Action. J. J. R. Macleod, Cleveland.
77 Lacerations of the Cervix. N. C. Yarian, Cleveland.
78 Vaccine Therapy in Lung Abscess. P. A. Jacobs, Cleveland.
79 Eight Cases of Syphilis Treated with Salvarsan (606). W. T. Corlett, Cleveland.
80 *Surgical Approach to the Lower Ureter. F. C. Herrick, Cleveland.
81 Method of Preparing Lantern Slides in Color. A. H. Tashjian, Cleveland.

75. **Psychoses in Acute Infections.**—Five cases reported by Barrett give some idea of the multiformity of the clinical symptomatology which may occur in the psychoses caused by infectious diseases. Common to the cases given only is the disturbance of the consciousness. A review of a large number of cases reported as psychoses of acute infectious diseases shows that there are no specific clinical symptoms which distinguish the group of psychoses from non-infectious conditions. The most that can be said is that it is true in general that at the same stage of an infectious disease, psychoses of the same type are prone to occur. The clinical picture is greatly influenced by the intensity of the infection. The more acute the infectious disease, the more turbulent are the physical symptoms. This is borne out in Barrett's cases. The only case in which definite delusions were present ran a subacute course of seven months, while the case in which there was the greatest excitement and most severe disturbance of consciousness was one of puerperal infection which ran its course in twelve days. There is a certain harmony in this series of cases between the clinical course and the pathologic findings. The case which ran the longest and mildest course showed in the brain the less acute changes. Barrett did not find in this case the same severe distinctive process affecting the nerve cells as in the other cases. The most severe changes in the cortex were found in a case of delirium in tuberculosis. Two cases of typhoid psychoses are specially interesting from the similarity of the neurologic disturbances in each, and one of these, by reason of the occurrence of the mental disturbance nearly ten weeks before the physical signs of the disease were observed. The other typhoid case has a point of interest in the occurrence of an infectious psychosis without fever, yet with the anatomic alterations which can be experimentally produced by increasing the body temperature.

80. **Surgical Approach to Lower Ureter.**—The incision recommended by Herrick is made on an imaginary line drawn from the inner lip of the anterior superior spine to a point above the opposite spine of the pubis, say the external abdominal ring, starting from 1½ to 2 inches from the anterior superior spine and extending from 3 to 3½ inches to the rectus muscle. This strikes the edge of the rectus from 1 to 1½ inches above the entrance into it of the deep epigastric artery. The tendinous external oblique is split in the line of the incision, the internal oblique and transversalis are likewise split parallel to their fibers and parallel to the nerve trunks which lie between them. The peritoneum is dissected up with the fingers from the side and floor of the pelvis. A broad retractor, placed at the lower end of the incision, gives good access to the deep pelvis. In finding the ureter, the finger is carried to the bifurcation of the common iliac and then turned up against the under surface of the peritoneum where, closely adherent to the peritoneum and covered by some of its reflected fibers, will be felt the ureter. By cutting the fibers the ureter is separated from the peritoneum for an inch or two, a strip of gauze is passed behind it and gentle traction made when the ureter will stand out as a ridge extending to the base of the bladder. Herrick has, without difficulty, removed stones impacted just above the bladder but inaccessible through the cystoscope and feels that since all structures are returned to their normal state this route is an ideal one.

Journal of the Delaware State Medical Society, Wilmington

December

82 Home Treatment of Pulmonary Tuberculosis. G. B. Pearson, Wilmington.

Journal of the Arkansas Medical Society, Little Rock

November

83 *Modern Methods of Treatment for Severe Prolapse of the Uterus. H. L. Crossen, St. Louis, Mo.
84 *Infant Mortality. J. T. Clegg, Siloam Springs.
85 *Acute Otitis Media and Mastoid Abscess in Children. R. Caldwell, Little Rock.

83, 84 and 85. Abstracted in THE JOURNAL, June 11, 1910, pp. 1991 and 1992.

Texas State Journal of Medicine, Fort Worth

December

86 *Use of Drugs as Stimulants in Accidents Occurring During Anesthesia. O. H. Plant, Galveston.
87 *Position for Combined Abdominal and Pelvic Outlet Operations. A. C. Scott, Temple.
88 Organization and Public Education. T. C. Merrill, Colorado.
89 General Anesthesia. F. B. Bryan, Childress.

86. **Use of Drugs as Stimulants in Accidents.**—Of the drugs investigated by Plant, a combination of cocain and strychnin was by far the most efficient in producing recovery; nine out of twelve of the animals operated on recovered without any other restorative measure than the intravenous injection of these drugs. In ether anesthesia, this was the only series in which more than one animal was restored. This fact is not hard to explain, because in ether anesthesia the respiration is depressed to a much greater extent than the circulation, so that a respiratory stimulant is the chief need. The average fall in mean pressure in twenty-three experiments where ether was administered amounted to 23 per cent., while in twenty-four experiments in which chloroform was used it amounted to 74.6 per cent., more than three times as much; the force of the heart (pulse pressure) was diminished 1.7 per cent. in ether anesthesia, and 62.8 per cent. in chloroform anesthesia. These figures show that in ether anesthesia the circulation was not greatly depressed in these experiments at the time the respiration stopped, and that a respiratory stimulant is the prime necessity, so far as drugs are concerned in ether anesthesia.

Plant regards cocain as probably the most powerful of the respiratory stimulants and combined with strychnin, which stimulates both respiratory and cardiac centers, it meets the indications better than any of the stimulants commonly employed in ether and chloroform anesthesia. In all accidents during anesthesia, artificial respiration is by far the most important and efficient restorative, and the drug treatment is only accessory. This is especially true in ether narcosis, where respiration is depressed to a much greater extent than the circulation. Neither adrenal preparations nor atropin, nor a combination of the two, had any marked beneficial effect in ether anesthesia. In chloroform anesthesia, however, the circulation is depressed to almost as great an extent as the respiration, and adrenal preparations, which raise the blood-pressure chiefly by causing constriction of the blood-vessels were found to have some value, provided the cardiac inhibition which they produce does not offset the stimulating effect. When they are injected directly into the circulation the slowing of the heart is very pronounced, but it is probable that if their effects were produced slowly (as when absorbed from hypodermic injection) this effect would be less marked. Combined with atropin, which prevents the slowing of the heart and acts to some extent as a stimulant itself, adrenal preparations have greater value in chloroform anesthesia than when used alone.

The value of atropin as a restorative was found to be limited to chloroform anesthesia, and here the beneficial effects are due to the fact that this drug removes cardiac inhibition. The average decrease in pulse-rate in twenty-four experiments where chloroform was administered amounted to 43.7 per cent. The slowing of the pulse in chloroform anesthesia is quite variable; in some of the experiments it was less than 10 per cent., while in others it amounted to as much as 75 per cent. When marked inhibition occurs, atropin causes a sharp rise in pressure by increasing the pulse-rate, and this rise in pressure serves in itself to stimulate the respiratory center. In four experiments in which recovery occurred there was marked inhibition before the injection was made, and in the animal that did not recover, there was only slight change in the pulse-rate. Camphor and digitalis, although good heart stimulants, Plant regards as of not much use during anesthesia, because they act slowly and their stimulating effect is limited to the heart.

87. **Combined Abdominal and Pelvic-Outlet Operations.**—By the use of any metal knee-holder which fits comfortably in the popliteal space, Scott secures an exposure of the abdomen in an elevated position and at the same time exposing the pelvic outlet. This is accomplished by having the popliteal knee-holder hinged on a short, upright bar, broadened and slotted at the lower end to slide, with a [illegible] screw, on a horizontal metal bar, which in turn is fixed to a strong cylindrical upright bar, sliding in a screw clasp at the side of the operating table. The sliding on the horizontal bar allows adjustment for the varying lengths of patient's thighs. The cylindrical sliding upright bar at the side of the table permits the thighs to be moderately flexed or fully extended, abducted or adducted at will. A piece of bandage loosely wound about each ankle is tied to any convenient point below the corner of the table, and another is placed above each knee, to prevent extension and elevation of the knees, thus securely holding them in their respective knee-holders. Any modern operating table will serve the purpose of these attachments and enable one to secure the desired combined position if it has a pivotal point about the center permitting the entire surface of the table to be raised or lowered at will.

Kentucky Medical Journal, Bowling Green

November 15

90 Diagnostic Significance of Headache to the Internist. J. W. Kincaid, Catlettsburg.
91 Diagnostic Significance of Headache to the Physician. A. D. Willmoth, Louisville.
92 Diagnostic Significance of Headache to the Specialist in Eye, Ear, Nose and Throat Diseases. M. C. Dunn, Henderson.
93 Present Status of Serotherapy and Vaccine Therapy. F. H. Montgomery, Danville.
94 Necessity for Properly Selected and Compensated City and County Health Officers. J. N. McCormack, Bowling Green.

December 1

95 *Kentucky's Opportunity for Vital Statistics—How the Medical Profession Can Aid. C. L. Wilbur, Washington, D. C.
96 *Nature and Treatment of Splenic Anemia. B. E. Giannini, Coalmont.
97 *Diagnosis and Medical Treatment of Cirrhosis of the Liver. G. W. Payne, Bardwell.
98 *Diagnosis and Treatment of Cholecystitis. I. Abell, Louisville.
99 Abscess of the Liver: Diagnosis and Treatment. J. I. Rathburn, Russell.
100 Etiology, Diagnosis and Treatment of Pellagra. W. F. Stirman, Owensboro.
101 *State Care of the Insane. C. Pope, Louisville.

102 Electricity in Diagnosis and Treatment of Disease. J. J. Rodman, Owensboro.
103 Water Supply and Sewage Disposal. P. Hansen, Bowling Green.
104 *Medical Expert Testimony. E. J. McDermott, Louisville.

95 and 96.—Abstracted in The Journal, Oct. 15, 1910, pp. 1400 and 1401.

97, 98, 101 and 104. Abstracted in The Journal, October 22, pp. 1492, 1493 and 1495.

American Journal of Surgery

December

105 Operative Treatment of Cranial Fractures. F. Hartley, New York.
106 Diseases of Bone and Their Differentiation by Means of Roentgen Rays. G. E. Pfahler, Philadelphia.
107 *Contusion of the Back and Its Complications. W. Lathrop, Hazleton, Pa.
108 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
109 *Acute Angulation and Flex[illegible] Causative Factor in Epilepsy. W. I[illegible] sh.
110 A Practical Syringe for [illegible] V. C. Pederson, New York.

107. **Contusion of the Back.**—Summarizing his paper, Lathrop says: In simple contusions of soft parts, we should promote the absorption of extravasated blood by cold, elevation and pressure; but if at all extensive, or with marked fluctuation, immediate incision, under aseptic conditions, will give the best results. Rest is of paramount importance. Massage of contused parts, such as the elbow, shoulder, knee, ankle and hip, is of great value after the acute stage is past. Lead and opium, arnica, alcohol, and sublimate applications are all used more or less, and no doubt with benefit. In severe injury involving not only the skin, but the muscles beneath, and possibly the bony structures as well, the best management is through examination under anesthesia, and treating the case as indicated—careful cleansing, suturing of any torn muscles, and provision for drainage. When sloughing occurs—and it will in many instances—the area should be well protected, and treated as any other granulating surface. In regard to the spine, any injury must be very severe to involve its contents, and must be regarded as serious; it will require time for repair, or improvement, and must be treated largely symptomatically. The prognosis should be guarded at all times.

109. **Flexure of Sign[illegible]** From an experience in the examination of thirty-one cas[illegible] epilepsy, Axtell is convinced that constipation and intestinal toxemia are minor factors in causing epilepsy. Of sixty-seven individuals with obstinate and persistent constipation examined and treated by the sigmoidoscope, forty-three, or 64 per cent., had acute flexure at the recto-sigmoidal juncture. Of these forty-three patients, eight had epilepsy. A remarkable fact was that this condition should be present in every one of the epileptics. Another remarkable feature was that the prolapsed loop of the sigmoid was inordinately impacted in every instance. Of the eight cases six were males, two females; convulsions began eight years before in one; ten years in one; fourteen years in one; four years in one; twelve years in two; time not recorded in two. All the cases had acute angulation of a severe type; all had impaction of the sigmoid of an inordinate character. The cecum in every case was enlarged and tympanitic. In all, the rectal mucous membrane was inflamed and the veins were more or less engorged. One patient had a large ulcer just below the angulation; two had adhesions of the impacted and prolapsed loop of the sigmoid; three had, in addition to the angulations, a thickening of the bowel wall at the point of flexure and an invagination of the mucous membrane to a greater or less degree; two had retroverted uteri, and in one the uterus was adherent from an attack of pelvic peritonitis.

Virginia Medical Semi-Monthly, Richmond

December 9

111 Etiology and Symptoms of Arteriosclerosis. L. T. Royster, Norfolk.
112 Pathology of Arteriosclerosis. H. T. Marshall, Charlottesville.
113 Treatment of Arteriosclerosis. W. S. Gordon, Richmond.
114 Diagnosis and Treatment of Pyelitis. H. A. Fowler, Washington, D. C.
115 Peritonitis and Its Treatment. S. McGuire, Richmond.
116 Climatology of the Seaboard Air Line Region. E. Gladmon, Southern Pines, N. C.

California State Journal of Medicine, San Francisco

December

117 Enucleation of the Tonsil from the Standpoint of the General Medical Man. L. Porter, San Francisco.
118 Enucleation of the Tonsil, a Surgical, Not a Radical Procedure. A. J. Houston, San Francisco.
119 Pathologic Histology of the Tonsil. H. Hastings, Los Angeles.
120 Tendon Transplantation. C. Kurtz, Los Angeles.
121 Strangulated Hernia. A. M. Taylor, San Francisco.

Journal of the Missouri State Medical Association, St. Louis

December

122 *Clinical Recognition of the Scaphoid Type of Scapula and of Some of Its Correlations. W. W. Graves, St. Louis.
123 Rupture of the Intestine from Abdominal Trauma. H. P. Kuhn, Kansas City.
124 *Technic of Immediate Closure of Bladder Following Suprapubic Cystotomy. C. E. Burford, St. Louis.
125 Bladder Calculi. E. G. Mark, Kansas City.
126 What Shall We Do With Patients With Advanced Uterine Cancer? F. Hincher, St. Louis.
127 Prevention of Blindness. J. Green, St. Louis.

122. Published in The Journal, July 2, 1910, p. 12.

124. **Immediate Closure After Cystotomy.**—Instead of immediate, complete closure of the suprapubic wound being a curiosity, Burford holds that it should be the routine procedure in the majority of cases. Constant drainage of the bladder preventing distention and sudden tenesmus, is a necessity if integrity of a freshly sutured vesical wall is to be maintained. Instead of the perineal or suprapubic drain, the method under discussion involves the use of the natural channel of the urethra for a large caliber drainage tube. The character of cases in which this is indicated is as follows: (1) Following removal of all benign and many malignant growths of the bladder when hemorrhage is not great; (2) following all cases of suprapubic cystotomy for retrograde catheterization of impassable stricture of urethra; (3) following many cases of suprapubic lithotomy; (4) following many cases of suprapubic prostatectomy in which the cystitis is not too severe.

Ohio State Medical Journal Columbus

December

128 Etiology, Results and Treatment of Movable Kidney. R. E Skeel, Cleveland.
129 The Movable Kidney from a Medical Standpoint. M. J. Lichty, Cleveland.
130 The Movable Kidney from the Standpoint of the Genito-Urinary Surgeon. E. O. Smith, Cincinnati.
131 Hyoscin Hydrobromid as an Adjunct to Cocain Anesthesia, and as a Preventive to Cocain Poisoning. M. Metzenbaum, Cleveland.
132 Social and Economic Value of Efficiency in Medicine. F. P. Lewis, Buffalo, N. Y.
133 Medical Inspection of Schools. J. H. McHenry, Cleveland.
134 Malingering and Its Detection. E. E. Gaver, Columbus.
135 Tetany of Children. D. S. Hanson, Cleveland.

Bulletin of the Johns Hopkins Hospital, Baltimore

December

136 *Electrocardiography and Phonocardiography. L. F. Barker, Baltimore.

136. **Electrocardiography and Phonocardiography.**—This is a collective review of the work done and of the instruments used in the study of the differences in electric potential which occur in different parts of the heart-muscle preceding and during their activity.

Journal of the Tennessee State Medical Association, Nashville

December

137 Treatment of Syphilis by Salvarsan. W. Litterer, Nashville.
138 Report of 503 Cases Treated with Salvarsan. W. Weehselmann, Berlin, Germany.
139 Report of 100 Cases of Syphilis Treated with Salvarsan. A. Glueck, Sarajevo, Bosnia.
140 Subphrenic Abscess. A. B. Cooke, Nashville.
141 Pathologic Report. W. Litterer, Nashville.
142 A Case of Subphrenic Abscess. J. J. Waller, Oliver Springs.
143 Plea for a Higher Standard of Medical Education. A. McCoy, Jackson.

Journal of the Kansas Medical Society, Kansas City

December

144 *Necrobacillosis of the Skin. C. M. Stemen, Kansas City.
145 Bacteriology of *Bacillus Necrophorus*. F. W. Shaw, Kansas City.
146 Appendicitis. C. R. Lytle, Durham.
147 Etiology and Treatment of Ulcerations of the Cornea. W. H. Graves, Pittsburg.
148 Cleft Palate. G. W. Jones, Lawrence
149 The New Profession. H. B. Caffey, Pittsburg.

144. **Necrobacillosis of the Skin.**—The case cited by Stemen was caused by the *Bacillus necrophorus*, the condition being identical with one found on the lip and legs of the sheep. The ulceration in this case was on the back of the hand and was about 2½ inches broad by 2 inches in length, and raised at its highest about ¾ of an inch. The sore consisted of blebs, each one, seemingly, having its own peculiar appearance, some gray and some a bluish red. The inflammation extended to the shoulder. The entire arm was rubbed thoroughly twice daily with unguentum Credé. The ulceration proper was treated with the bichlorid pack and a 20 per cent. solution of ichthyol applied to the parts adjacent to the ulceration. The constitutional treatment consisted of 20 grains of iodid of potassium 3 times daily, with 1 teaspoonful of salts morning and night. The man made an uninterrupted recovery and in three weeks the wound had entirely healed.

Colorado Medicine, Denver

December

150 A Fatal Case of Lupus Erythematosus. C. B. Van Zant, Denver.
151 The Dwarf Tapeworm in American Children. J. W. Amesse, Denver.
152 Transmission of Contagious Diseases. M. Kleiner, Denver.
153 A Dietary Study in the National Swedish Sanatorium, Englewood, Colo. C. D. Spivak, Denver.
154 Retropharyngeal Abscess. W. C. Bane, Denver.

Iowa Medical Journal, Des Moines

December

155 *Diagnosis of Pancreatic Diseases. D. C. Brockman, Ottumwa.
156 Postoperative Treatment of Laparotomy. J. L. Augustine, Ladora.
157 Treatment of Diffuse Septic Peritonitis. V. Knott, Sioux City.
158 Milk Examination. S. R. Klein, New York.
159 Surgical Procedure in Contracted Pelvis. H. G. Welpton, Des Moines.
160 A National Department of Public Health Necessary for Prevention and Control of Tuberculosis and Other Communicable Diseases. G. A. Smith, Clinton.

155. **Diagnosis of Pancreatic Diseases.**—Brockman urges an examination of the pancreas in every examination for pathology in the upper abdomen, in cases in which the biliary apparatus is diseased, in cases of rapid emaciation without evident cause, in every case of diabetes in the adult, in all cases of profound abdominal disease accompanied by ileus, collapse, vomiting and pain in upper abdomen, in all cases of painless jaundice with enlarged gall-bladder and loss of weight which will prove to be either chronic sclerosing of the head of the pancreas, due to chronic inflammation, or cancer of the head of the organ.

Journal of the Medical Society of New Jersey, Orange

December

161 *Relation and Attitude of the Pubic To and the Obligation of the Physician in the Development of Communicable Diseases. P. Marvel, Atlantic City.
162 Adenoids and Their Influence on the Mental Condition of the Patient. J. Koppel, Jersey City.
163 *Sulph-hemoglobinemia. T. W. Clarke, New York, and R. M. Curtis, Paterson, N. J.
164 Our Present Knowledge of Anterior Poliomyelitis. P. Boysen, Riverton.

161. Abstracted in THE JOURNAL, Aug. 6, 1910, p. 527.

163. Also published in the *Medical Record*, Dec. 3, 1910; abstracted in THE JOURNAL, Dec. 17, 1910, p. 2181.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

December 15

165 Cystitis and Pylecystitis in Infants and Young Children. W. R. Ramsey, St. Paul.
166 Teaching of Hygiene in the Grades. F. E. Lurton, Anoka.
167 Malignant Endocarditis with Recovery. H. L. Staples, Minneapolis.

West Virginia Medical Journal, Wheeling

December

168 Victories to Be Achieved and Problems to Be Solved by Medicine. W. H. Sharp, Parkersburg.
169 The West Virginia Physician and Tuberculosis. C. A. McQueen, Charleston.
170 Management of Normal Labor. H. W. Daniels, Elkins.
171 Preservation and Repair of the Perineum. W. A. McMillan, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 26

1 *Use of Elastic Traction and Elastic Pressure in Surgery. G. A. Wright.
2 High Blood-Pressure in Arteriosclerosis. R. D. Rudolf.
3 *Reaction of the Heart to Digitalis When the Auricle is Fibrillating. T. Lewis.
4 *Variations of the Fermentation Properties of *B. Typhosus.* W. J. Penfold.
5 Diaphragmatic Hernia in an Adult. E. Ringrose.
6 Diagnosis and Treatment of Infective Labyrinthitis. R. Bárány, S. Scott and C. E. West.
7 Connection Between Irritation of the Mucous Membranes Throughout the Body and Middle-Ear Catarrh. M. Hovell.
8 *Practicability of Treating Meningitis by Lavage of the Cerebrospinal Subarachnoid Spaces. J. S. Barr.
9 Ossiculectomy in Chronic Suppurative Otitis Media. M. Yearsley.
10 Deafness and Disease of the Ear in Relation to the Public Services and Insurance. J. Horne.
11 Aural Tuberculosis in Children. W. Milligan.
12 Congenital Atresia of the Choanæ. J. S. Fraser.
13 Headaches in Association with Obstruction in the Nasal Passages. L. H. Pegler.
14 Tuberculin in Laryngeal Tuberculosis. W. C. Wilkinson.
15 Vasomotor Rhinitis. H. S. Birkett, E. B. Waggett and A. Francis.
16 Cancer of the Throat. R. H. S. Spicer.

December 3

17 Prophylaxis in Obstetrics. A. W. Russell.
18 Treatment of Hypertension Based on Consideration of the Cause. H. B. Shaw.
19 *Estimation of Blood-Pressure by the Sphygmo-Oscillometer. K. Eckenstein.
20 Control of Venereal Diseases at Their Source in Civil Communities. H. C. French.
21 Combined Use of Spinal and General Anesthesia. A. E. Johnson.
22 Thyroid Extract in Rheumatoid Arthritis. H. Wilson.
23 A Case of Intestinal Reflex. E. S. Stevenson.
24 Proof of the Endemic Origin of Yellow Fever in West Africa. R. W. Boyce.
25 Fatal Trichocephaliasis in a Child. J. G. S. Jamieson and J. M. Lauder.

1. **Elastic Traction.**—The use of rubber as an orthopedic agent is discussed by Wright. In cases of flexion of joints, when no actual ankylosis is present, but immediate straightening by force is undesirable, he thinks no more valuable means of rectification exists than elastic tension. First, rubber has the advantage over steel springs in that its tension can be employed through a much wider range, and the strength of the tension is capable of more ready adjustment. It is much easier to apply slighter degrees of traction or pressure, much easier to arrange for the exact line of traction required, and, in addition, any apparatus needed may be readily and cheaply improvised. The appliances are exceedingly cheap, easily managed, and easily replaced. A little ingenuity and some rubber cord is the stock-in-trade, though patience and care are, of course, also necessary, as living tissue cannot be dealt with quite as if it were a question of cabinetmaking or upholstering. Pressure sores are a possible result of mismanagement or neglect, and are easier to make than repair.

For flexed joints that require straightening, all that is necessary in many cases is the application of a straight splint across the angle of flexion, secured to the limb above and below the joint, but not so tightly as to prevent the lower segment from slipping through the bandages as the limb straightens. These bandages may be of any material, but it is better to use flannel or some slightly elastic material for the distal segment of the limb. The joint is left bare at this stage. Next an elastic bandage is carried over the joint and round the splint so as to exert the desired pressure in the required direction. The angle of flexion should be measured before and at short intervals during the treatment. A daily removal of the elastic is necessary at first to make sure that there is no excessive pressure. Exactly similar appliances may be used to prevent or to correct cicatricial contractions in suitable cases. It is a good plan to substitute elastic traction applied to the lower segment of the limb, either as a temporary substitute or an alternative to the elastic pressure. if, for any reason, direct pressure over the joint is inadvisable. A good example of the use of elastic traction is seen in Bryant's double splint. In fracture of the patella, elastic traction may be used to approximate the fragments by steadying the lower one and drawing the upper downward toward it. In rachitic deformities the use of elastic pressure finds a very wide application. For curvatures of the shafts of the bones of the leg a straight splint applied on the concave side with elastic pressure over the convexity of the curve will straighten a large proportion of these curved limbs. Of course, the more rapidly the deformity is increasing the more likely is the use of elastic pressure to succeed.

For the anterior curve of the tibia the tension of the calf muscles makes the use of elastic pressure more tedious, and in some instances nothing but cuneiform osteotomy or a splice section will succeed. For genu valgum in slight cases an outside splint applied on similar lines is efficient, but in severe cases there is great difficulty in maintaining steady pressure by reason of the tendency of the limb to rotate outward, and so take off the tension. In the great group of deformities classed as flat-foot and talipes, there is ample scope for the use of elastic traction. For paralytic conditions the elastic traction is a most useful adjunct to, or, in some circumstances, substitute for tendon grafting.

3. **Reaction of the Heart to Digitalis.**—Lewis suggests that the ventricular rate is retarded in clinical auricular fibrillation by the action of digitalis on the junctional tissues, the functions of which are already in a depressed state.

4. **Fermentation Properties of Bacteria.**—Penfold pleads for the value of the fermentation tests in elucidating the laws of bacterial variation. They are easily applied, and if once understood, he thinks, would probably explain many of the most difficult problems in connection with virulence and other properties of microorganisms.

8. **Treatment of Meningitis.**—The experiments carried out by Barr were made on the body of a child, which had died of epidemic cerebrospinal meningitis. Lumbar puncture was performed, and the hollow needle left *in situ*. A small quantity of turbid fluid escaped but soon ceased to flow. Through a trephine opening in the skull, made above and behind the left ear, a cannular trocar was introduced into the lateral ventricle, and, on removing the trocar, a small quantity of turbid fluid escaped through the cannula. By means of a rubber tube attachment and a glass funnel, held 2 in. above the head, water tinted with carbol fuchsin was allowed to flow into the ventricle. Almost immediately turbid fluid began again to drop from the needle in the lumbar region, and in less than a minute the escaping fluid was found to have a reddish tinge; it continued to flow as long as the fluid entered the lateral ventricle. The higher the elevation of the glass filler the faster became the flow of stained fluid from the needle, and the flow was allowed to continue for over a quarter of an hour. The brain was then removed and carefully examined, when the course of the fluid introduced into the ventricle could easily be traced by the red coloration into the fourth ventricle via the foramen of Monro, third ventricle and aqueduct of Sylvius. From the fourth ventricle the fluid found exit into the subarachnoid space (cerebello-medullary cistern) through the foramen of Magendie, and possibly also through the two lateral apertures. It stained the entire cerebello-medullary cistern, passed forward into the interpeduncular cistern, upward along the Sylvian fissures over the anterior ends of the temporosphenoidal lobes, and even along the vaginal sheaths of the optic nerves. The course of the colored fluid could also be traced downward along the spinal subarachnoid space.

The same experiment was repeated on several other fresh subjects with similar results. This at least established the fact that fluid may pass uninterruptedly from the ventricular system into the basal and spinal subarachnoid spaces. A case (a boy 13 years of age) of advanced purulent leptomeningitis, secondary to a chronic purulent ear affection, came under Barr's care. The symptoms were typical of the worst form of the disease, and lumbar puncture verified the diagnosis, the fluid withdrawn being turbid, containing streptococci in chains, as well as pus cells. The radical mastoid operation, including the opening of the dura mater and the employment of such therapeutic measures as hexamethylenamin, 10 grains 4 times daily, repeated lumbar puncture, and several subcutaneous injections of antistreptococcus serum, led to no improvement in the condition, and, two and a half days after the admission to the hospital, the patient was obviously moribund. He was in a state of coma, the temperature was over 103 F., pulse 130 a minute and feeble, and the breathing markedly Cheyne-Stokes in type. It was considered justifiable to operate in the same way as Barr had done in the cadaver. By means of a glass funnel attachment, sterilized saline solution, at a temperature of 100 F., was allowed to flow into the lateral ventricle. In a few seconds turbid fluid began to drop from the lumbar cannula. This was carried on for quite an hour, and at the end of that time more than half a pint of turbid flaky fluid had been collected in a glass. As a final step, 10 c.cm. of antistreptococcus serum were introduced into the lateral ventricle through the rubber tube. The cannula in the lumbar region was then removed, but the rubber tube, fixed by means of sutures, was left in the lateral ventricle. The patient bore this prolonged operation well, and for an hour or two there was a slight general improvement, but no return to consciousness; this slight improvement soon passed off, and death ensued fourteen hours after the completion of the operation. A postmortem examination confirmed the diagnosis of widely diffused basal leptomeningitis, characterized by the large amount of exudate filling the basal subarachnoid cisterns. There was no other intracranial lesion.

10. **Estimation of Blood-Pressure.**—The sphygmo-oscillometer, described by Eckenstein, is the instrument which was devised by Dr. V. Pachon, Chef du Laboratoire de Physiologie in the Faculty of Medicine of Paris, for the clinical estimation of blood-pressure, and the study of the variations which occur in the cardiac cycle as manifested by the pulse-wave. It consists of a rigid and air-tight metallic box, which contains an aneroid chamber. At the beginning of an experiment the box, the aneroid chamber and the armlet are in direct communication with one another. One great advantage of this instrument is said to be the absence of the personal equation. Those who have worked with instruments of the Riva-Rocci type must have been struck with the difficulty that is sometimes experienced in determining the exact moment at which the registering finger can no longer distinguish the pulse. This difficulty may be made still more marked if two observers perform the experiment, one of whom is engaged in watching the sphygmomanometer, while the other is occupied solely with feeling the pulse. With the oscillometer there is no such difficulty, as the disappearance or the reappearance of the pulse is indicated by the needle. The oscillometer should be used exactly as a Riva-Rocci instrument—that is to say, the armlet should be applied over the brachial artery and the finger on the radial pulse.

Lancet, London

November 26

26 *Thrombotic Softening of the Spinal Cord a Case of So-Called Acute Myelitis. H. C. Bastian.
27 Diseases of Elephants' Tusks in Relation to Billiard Balls. J. Bland-Sutton.
28 Diffuse Lipoma. J. Hutchinson.
29 Infection in Phthisis. L. Cobbett.
30 Salvarsan ("606"). E. Emery.

December 3

31 Treatment and Prognosis of Exophthalmic Goiter. W. H. White.
32 Recurring Arterial Hypertonus in Granular Kidney and in Migraine. W. Russell.
33 Diagnosis and Treatment of Cystic Disease of the Breast. D. Power.
34 *Heart Strain and Dilatation. J. F. Goodhart.
35 Motor Functions of the Stomach. H. M. W. Gray.
36 Intramedullary Lesion of the Spinal Cord. A. Bernstein.
37 *Intestinal Obstruction Caused by an Enterolith Spontaneously Cured by Evacuation Through an Umbilical Fistula. D. M. Greig.
38 Outbreak of Illness Due to Canned Meat in the City of Carlisle. J. Beard.

26. **Thrombotic Softening of the Spinal Cord.**—Bastian holds that the evidence seems to be altogether overwhelming that in the great majority of cases of so-called "acute myelitis," and also of "acute poliomyelitis," the affection is caused not by an inflammation, but by the thrombosis of some of the vessels of the spinal cord (when, in the latter disease, it is not due to a special acute degenerative process). This latter conclusion, he believes, is rendered obvious: (1) by the similarity of the morbid changes in question to those occurring in the brain which are due to thrombosis, as well as to the absence of any reason why a primary inflammation should

be rare in the brain and common in the spinal cord; (2) these strictly logical reasons are strongly reinforced by the fact of the existence of special conditions favoring the occurrence of thrombosis in the vessels of the spinal cord, and in just such parts of the cord as are most frequently affected; (3) by the fact that the disease is most commonly met in just such persons and under just such conditions (as to heart's action, blood-vessels and quality of blood) as are known to be favorable to the occurrence of thrombosis; (4) by the fact that the mode of onset and the early symptomatology of the affection are wholly different from what they would be, had an inflammation of the cord actually existed; and (5) by the fact of the absence of any reasonable cause of inflammation, certainly in the majority of those in whom the malady makes its appearance.

34. **Heart Strain and Dilatation.**—True heart strain, by which Goodhart understands a state of muscle that, if not dealt with by retreat from all active exercise for long periods, leads to dilatation of the heart, is a rare condition. Dilatation of the heart, in the beginning, is evidently not easy to determine with certainty, for it may share signs and symptoms in common with many emotional and other nerve disturbances of which the heart is a past-master of expression. Cases of doubt are common, and they call for circumspection as regards their management.

37. **Intestinal Obstruction.**—A boy, of imperfect health, a sufferer from alternating constipation and diarrhea, had a pointing abscess at the umbilicus which was protruding, inflamed and fluctuating. The abscess burst and discharged offensive pus, which necessitated frequent dressing, but the boy did not seem to make progress. After five days of vomiting and pain, a drainage tube was inserted. This was followed by a diminution of the discharge, but it was noticed that there was some fecal matter mixed with the pus. The slight improvement was maintained for a few days. The sinus was enlarged by dressing forceps, and an attempt was made to provide more efficient drainage. This was successful to some extent. While the wound was being dressed, a rounded calculus-like mass presented in the sinus and was easily removed, its escape being accompanied and followed by an unusually large quantity of pus. From that moment the wound healed rapidly and the boy's condition materially improved, and he was discharged healed and looking well and stout ten days later. His general improvement was as striking and remarkable as the improvement in the local condition. The structure which was discharged proved on examination to be an enterolith. It was globular, measured 2½ inches in circumference, was rather larger than an ordinary marble, being smooth for the most part but not polished, and when dried its most striking feature was its lightness. It weighed 24 grains, and, indeed was considerably lighter than a pith ball of equal size. Where the enterolith lay in this case it was impossible to say. The sinus led from the umbilicus backward into the right loin, but the obstruction must have been in the small intestine, for a foreign body of its size could not cause obstruction in the large bowel.

Medical Press and Circular, London

November 9

39 Medical Treatment of Ulcer of the Stomach and Duodenum. F. J. Smith.
40 Local Tenderness on Pressure in Tuberculosis. C. Sabourin.
41 Occurrence of Headache and Pain in Nasal Conditions. J. W Wood.

November 16

42 Vision. W. R. MacDermott.
43 Pathogenesis and Treatment of Anuria. C. Achard.
44 Infection of the Urinary Tract with *B. Coli.* J. R. Charles.

Clinical Journal, London

November 9

45 Arthritis: Its Varieties and Treatment. W. Murrell.
46 Enlarged Tonsils and Adenoids. G. F. Still.
47 Endo-Aneurysmorrhaphy. W. Sheen.

November 16

48 Syphilitic Headaches. G. Pernet.
49 Treatment of Central Osteitis by Metal Drains. C. J. Symonds.

Indian Medical Gazette, Calcutta

November

50 A New Method of Making Permanent Preparations of Mosquitoes. C. A. Bentley and J. Taylor.
51 Value of Adrenalin and Pituitrin in Treatment of Cholera. H. E. Drake-Brockman.
52 Persistent Hiccough as a Sequela of Choleraic Diarrhea. W. D. Keyworth.
53 Diagnosis and Treatment of Intrapelvic Extra-Uterine Tumors. K. Platt.
54 *Strangulated Hernia.* F. P. Connor.
55 Three Unusual Cases of Hemoglobinuric Fever. C. Roper.
56 *An Unusual Complication of Labor. D. Munro.
57 Two Cases of Snake Poisoning. Recovery. F. C. Fraser.
58 Fatal Case of Snake-Bite by *Echis Carinata.* C. H. Reinhold.
59 A Case of Poisoning by Eucalyptus Oil. G. G. Jolly.

56. **An Unusual Complication of Labor.**—In the case reported by Munro, a cystic tumor about twice the size of a fetal head was attached between the legs of the fetus. The base of attachment corresponded to what should have been the perineum and to the coccyx and sacrum. The tumor was covered by ordinary skin continuous with that over the abdomen and buttocks of the fetus. No anal opening could be discovered in the fetus. Its pelvic cavity communicated directly with the cavity of the tumor. In front of the base of attachment of the tumor was a rudimentary vulva with a small blind urethra. There were several daughter-cysts in the walls internally and running around the internal walls were loops of the intestine. Of these loops some were rudimentary and blind. They were attached to the inner wall of the cyst by mesentery. The rectum of the fetus was in this way continuous with a blind loop in the wall. The spinal column of the fetus did not end at the coccyx but was continued on into a bony mass which seemed like a rudimentary pelvis. *From this mass five stunted twisted legs had projected* forming a star-shaped figure. Of these one foot had eight toes, one six toes, one three toes and one one toe. They were not all of the same size and were at different stages of development and perfection. Two of them were very rudimentary, containing some rudimentary bone, but joined on to the central mass by skin and fibrous tissue. Another was only joined on by skin and fibrous tissue. Two of the legs had articulations with the rudimentary pelvis, and did not hang loose like the others. Munro dissected out from one a fairly well-formed tibia with ossified shaft and upper and lower cartilaginous epiphyses.

Archives Gênérales de Chirurgie, Paris

September, VI, No. 9, pp. 881-990

60 Plastic Operation After Severe Burns of the Face. (Cicatrices vicieuses de la face.) L. Desgouttes and L. T. Tavernier.
61 Hemophilic Iliac Hematoma. G. Houzel.
62 *Traumatic Asphyxia. (Le masque ecchymotique de la face par compression thoracique.) P. Mauclaire and R. Burnier.

October, No. 10, pp. 991-1100

63 *Operability of Cancer of the Rectum. A. Chalier.
64 *Automobile Fracture of the Radius. (Fractures radio-epiphysaires.) P. Caccia.
65 *Continent Gastrostomy. (Gastrostomie par dédoublement du muscle droit suivant son épaisseur.) F. Lofaro.

62. **Traumatic Asphyxia.**—Mauclaire and Burnier report two cases of stasis cyanosis from trauma compressing the upper part of the trunk, and summarize sixty-six other cases from the literature. Treatment should be that for asphyxia in general, supplemented by stimulants, heat and friction.

63. **Operability of Cancer of the Rectum.**—Chalier found nearly 60 per cent. operable in his own experience with forty-seven cases, but the percentage in sixteen other clinics, which he cites, ranged from 19 to nearly 81 per cent. He found the ampulla distended with gas without admixture of feces in two cases; this is what is known as Hochenegg's sign of rectal cancer. The patient should be examined both erect and reclining, and anesthesia is frequently necessary to determine the question of operability. Even with this, he adds, metastasis in the liver is liable to escape detection. Exploratory laparotomy in the left side is the best of all means, he says, to determine the actual condition with rectal cancer in men, and vaginal laparotomy in women. He regards involvement of the bladder or urethra as contra-indicating removal; adhesion to the uterus or adnexa is not a contra-indication. In three of his cases a mammary or gastric cancer had been previously removed, and in another case a cancer in the anus or one in the sigmoid flexure was removed at the same time, and the patients survived from seven months to two years.

64. **Automobile Fracture of the Radius.**—Caccia reports five cases from Rome and describes the mechanism of the fracture and treatment, advising immobilization in abduction and slight supination when the fracture was the result of pres-

sure and flexion. But if it is due to torsion, immobilization in slight adduction is indicated, the hand slightly flexed and adducted, the arm between supination and pronation. During the immobilization the fingers should be exercised to maintain muscle functioning and after a week the cast should be removed for massage every day, and be discarded by the end of three weeks.

65. **Continent Gastrostomy.**—Lofaro separates the layers of the rectus muscle or bores through it horizontally and draws a cone of the wall tissue of the stomach through the passage thus made in the thickness of the muscle, bringing the cone of stomach wall finally out through the skin where it is sutured to make an opening into the stomach. The muscle fibers around, above and behind it insure a sphincter-like closure of the opening. The outcome was excellent in the eight dogs on which the operation has been performed.

Lyon Médical, Lyons

November 20, CXV, No. 47, 845-884

66 No Appreciable Influence from Simple Hyperthermia and Febrile Infection on Glycemia. R. Lépine and Baulud.
67 Functions of the Thymus. E. Weill.

Bulletin de l'Académie de Médecine, Paris

November 15, LXXIV, No. 36, pp. 261-338

68 *Comparative Value of Organic Arsenic and Mercury in Syphilis. E. Gaucher.
69 *Malta Fever. F. Widal.

68. Summarized in Paris Letter, Dec. 10, 1910, page 2074.

69. **Contagiousness of Malta Fever.**—On Widal's motion the Académie adopted a resolution advocating compulsory notification of cases of Malta fever, after he had discussed several small epidemics of the disease that have occurred in France recently. In most cases infection could be traced to goat's milk, but not always. Even mere contact with the infected goats or with their blood may transmit the disease. Laboratory infection seems to occur more readily with Malta fever than with glanders or plague, and he reported a case in a worker in his own laboratory, who developed a typical case of Malta fever after working on some cultures of the Malta micrococcus. No other source for his infection could be discovered; his habit of laying temporarily his cigarette on his work table probably afforded the opportunity for contagion.

Presse Médicale, Paris

November 16, XVIII, No. 92, pp. 857-864

70 Intoxications. H. Roger.

November 19, No. 93, pp. 865-880

71 *Experiences with Lime in Treatment of Pulmonary Tuberculosis. -dans la tuberculose
72 Wisdom- dentaire.) P. Fargin-Fayolle.

November 23, No. 94, pp. 881-888

73 Operative Treatment of Hemorrhoids. P. Reclus.

November 26, No. 95, pp. 889-896

74 *Serous Meningitis and Anaphylaxis After Spinal Serotherapy. J. A. Sicard.

71. **Lime in Treatment of Tuberculosis.**—Sergent has been treating pulmonary tuberculosis in the last six years according to Ferrier's recalcification method. This aims to resupply the lime, the loss of which, he believes, prepares the soil for tuberculosis and promotes its development. Sergent here gives the theoretical bases and reviews the results of treatment along this line, regarding it as the best method of treating tuberculosis at our disposal. The aim is to prevent undue loss of lime and to induce recalcification in the decalcified organism. He has applied it in 1,574 cases and states that 306 patients have been under practically constant observation for from six months to five years. General improvement was marked in 96 per cent.; general and local in 40 per cent.; 14 per cent. were apparently cured, while in 14 per cent. the disease continued its course unmodified. Ferrier assumes that the principal cause of the loss of lime is acid fermentation in the digestive tract, which must be prevented, and combated while the lime salts are to be given in substance and in mineral waters.

74. **Serous Meningitis After Intraspinal Serotherapy.**—Sicard calls attention to the meningitis liable to follow intraspinal injection of any substance, but especially of antimeningococcus serum. He applied this serotherapy in certain nervous and mental diseases, epilepsy or psychoses, hoping to modify the permeability of the meninges, and was surprised at the lively reaction that followed even small injections, the temperature rising several degrees, with headache, nausea, a suggestion of Kernig's sign and pains in the legs, all appearing two or three hours after the injection, most intense by the fifth or sixth hour and then gradually subsiding. The spinal fluid was turbid or opalescent, with polynucleosis gradually yielding to lymphocytosis. This reaction to the serum was observed both with normal and with chronically diseased meninges. With acute meningitis the infectious symptoms masked those due to the serum reaction, which explains why the latter has not been recognized before. This reaction has nothing to do with anaphylaxis as it occurs with the first injection. In one case this reaction following the serum injection in meningitis in a young man was assumed to be a flaring up of the infectious process, but the sterility of the cerebrospinal fluid convinced Sicard that it was merely this serum reaction, and the rapid recovery confirmed his assumption. In another case the laboratory findings in the cerebrospinal fluid were negative in a case suspicious of meningitis. The fluid the next day was opalescent and the diagnosis was supposed to have been erroneous until it was learned that in the interim an intraspinal injection of serum had been made. The change in the fluid was merely a serous reaction and the rapid recovery showed that a tonsillitis was responsible for the disturbances.

Revue de Gynécologie, Paris

October, XV, No. 4, pp. 305-400

75 Large Subperitoneal Myxoma of Broad Ligament. H. Brin.
76 *Vagino-Sacral Hysterectomy. (Hystérectomie vaginale à ciel ouvert.) Chaput.
77 *Inflammation of Gastric Cellular Tissue. (Linite plastique.) P. Reymer and P. Masson.
78 Contusions and Traumatic Ruptures of the Duodenum. H. M. Guibé.

November, No. 5, pp. 401-512

79 Double Uterus. Anatomy and Development. G. Piquand.
80 Advantages of Billroth I. Technic for Anastomosis After Pylorectomy. (La suture duodéno-gastrique terminale après pylorectomie.) M. L. Chevrier.

76. **Vagino-Sacral Hysterectomy.**—Chaput asserts that the technic illustrated has the advantages of both the abdominal and vaginal routes; it gives ample access, exposing the parts fully to view, while it is an unusually benign operation and leaves no scar on the abdomen. It is particularly useful for rather inaccessible vesico-vaginal fistulas as well as for operations on the internal genitals. The incision starts from near the right posterior superior spine of the ilium, follows the right margin of the sacrum, passes half way between the anus and the ischium and ends in the center of the right labium. The parts are incised down to the vagina and peritoneum inclusive. The vagina is thus opened through the labium up into the posterior cul-de-sac, a little to the right of the median line. His illustrations show the ample access thus provided and also the practically invisible scar left between the buttocks.

77. **Plastic Linitis.**—There were signs of cancer in the two cases reported by Reymer and Masson, and they say that study of the gastric chemistry in cases of so-called plastic linitis would probably reveal unsuspected malignant disease in many if not in all cases.

Semaine Médicale, Paris

November 30, XXX, No. 48, pp. 565-576

81 *Idiopathic Congenital Dilatation of the Rectum. (Megarectum.) L. Bard.

81. **Idiopathic Dilatation of the Rectum.**—In Bard's case the patient was a farmer of 48, whose rectum was dilated to fill two-thirds of the abdomen, pushing up the diaphragm to the third interspace on the right and to the sixth on the left. The rectum was packed with feces, over 5 pounds being removed, besides a mass nearly 3½ inches in diameter packed in the small pelvis. The man died under choleriform symptoms after a dose of castor-oil. The remarkable feature of the case was that the man had never known anything was

wrong in the abdomen; there had never been any symptoms of obstruction or digestive disturbances. The rectum was the only part of the intestine involved. Cough, dyspnea and a tendency to ascites were the only symptoms complained of and the interference with the movements of the diaphragm was probably responsible for them. He was a large eater with stool only about every second day. Bard explains the dilatation in this case as due to a congenital lack of strength and resistance in the walls of the rectum.

Archiv für Gynaekologie, Berlin

XCI, No. 3, pp. 479-761. Last indexed December 17, p. 2187

82 Relations Between Conception and Menstruation and Embedding of the Ovum. S. Gottschalk.
83 Atresia of Follicles in Child Ovaries. W. Benthin.
84 Histogenesis of Corpus Luteum and Products of Retrogression. K. Hegar.
85 *The Wertheim-Schauta Operation for Genital Prolapse. W. Stoeckel.
86 Lecithin Bouillon for Differentiation of Hemolytic Streptococci. A. Hamm and P. Jacquin.
87 Epithelium Development in Vaginal Portion of Uterus. R. Meyer.
88 Erosions and Pseudo-Erosions of Vaginal Portion of Uterus, Congenital and in Adults. R. Meyer.
89 Abdominal Operations for Uterine Carcinoma. K. Franz and A. Zinsser.
90 Lymphangiectasia with Uterine Myoma. R. Todyo.
91 Simulated Superfetation. E. E. Franco.
92 *New Experimental Research on Function of Corpus Luteum. L. Fraenkel.

85. **The Wertheim-Schauta Prolapse Operation.**—Stoeckel has performed this operation in forty cases and discusses several points which he regards as important for the technic. The bladder should be entirely mobilized and the uterus interposed so that it holds the entire bladder evenly on its back. If the uterus shows too strong a tendency to straighten up again there is less chance for its serving the purpose. Unless the uterus can be brought down without force as far as the urethra, he does not attempt to apply this technic. In one case it was a mere accident that he discovered an incipient carcinoma in the corpus as he was about to perform this operation. The patient had no signs of malignant disease and he wavered between the Schauta technic and hysterectomy, finally deciding on the latter. To his amazement he found a flat carcinomatous ulcer in the fundus; since then he has never utilized the uterus in a prolapse operation unless absolutely convinced of the soundness of its interior. For this purpose he curettes a day or so before the contemplated Schauta operation examining the scrapings under the microscope, and before suturing the uterus to support the bladder, he slits the anterior wall and inspects the interior, then curettes, applies the actual cautery to destroy the mucosa throughout, so as to ward off any possible trouble later by obliterating the cavity of the uterus, especially the opening into the tubes. One of his patients succumbed to pulmonary embolism, ten days after the operation, as she was allowed to get up. There was moderate myocarditis in this case; the operation had required only thirty-five minutes, under chloroform, and convalescence had been afebrile. A tendency to slight incontinence in two cases was evidently due to fastening the uterus too high.

92. **Function of the Corpus Luteum.**—Further experiences during the last seven years with 277 new experiments have only confirmed Fraenkel's statements in 1903 based on 120 experiments. All apparently sustain the assumption that the corpus luteum is a gland with an internal secretion, and that this is responsible for the changes and processes which induce the settling down of the ovum in the uterus and control the first few weeks of embryonal life. In the 112 rabbits whose corpus luteum was entirely removed before the fifteenth day after coitus, the pregnancy was completely arrested, while it progressed unmodified in over 50 per cent. of the fifty-three cases in which only part had been removed.

Beiträge zur klinischen Chirurgie, Tübingen

LXX, No. 1, pp. 1-391. O. von Angerer Festschrift

93 Parabiosis by Direct Union of Vessels. E. Enderlen, G. Hotz and H. Flörcken.
94 *Persisting Thymus with Exophthalmic Goiter. H. Gebele.
95 Free Osteoplastics. W. Lobenhoffer.
96 *Expulsion of Foreign Bodies. (Fremdkörper im Organismus.) H. v. Baeyer.
97 Surgical Impressions in America. F. Ebermayer.
98 General Treatment Before and After Operations. E. Leonpacher.
99 Intoxication from Dermatol. L. Dorn.
100 Roentgen-Ray Inspection in Sun-Lighted Room. (Röntgenoskopische Operationen im taghellen Raum.) R. Grashey.
101 Traumatic Retroflexed Coxa Vara. R. Grashey.
102 Injuries of the First Metacarpophalangeal Joint. R. Grashey.
103 Transverse Fracture of the Upper Jaw. (Zur Quérin'schen Transversalfraktur des Oberkiefers.) J. Duschl.
104 Ultimate Outcome of Traumatic Dislocation of the Shoulder. K. Lexer.
105 Brachydactylia. F. Klaussner.
106 Treatment of Injuries of the Lungs. v. Bombard.
107 Primary Operative Treatment of Gunshot Wounds of the Lungs. R. Seggel.
108 *Operative Treatment of Gastric Ulcer. (Zur chirurgischen Behandlung des Magengeschwüres.) A. Schmitt.
109 Splenectomy After Rupture of Spleen and in Malarial Fever. Papaioannou.
110 Hysteric Ileus. R. Dax.
111 Treatment of Diffuse Suppurative Peritonitis. Lunckenbein.
112 Emptying the Stomach in Operating on This Organ. (Mechanismus der Magenentleerung bei Magenoperierten.) C. Maunz.
113 Intrahernial Torsion of the Omentum. (Netztorsion.) A. Schönwerth.
114 *Plastic Closure of Opening in Femoral Hernia. (Neue Art eines plastischen Bruchpfortenverschlusses bei Cruralhernien.) A. Ach.
115 Retrograde Esophagoscopy with Stenosis. (Oesophagusstenosen und ihre Behandlung.) A. Ach.

94. **Persisting Thymus with Exophthalmic Goiter.**—Gebele states that seven died, being 19 per cent. of thirty-six patients with exophthalmic goiter operated on at the Munich surgical clinic. Necropsy was possible in five of the seven fatal cases and a large thymus was found in four out of the five. In six other patients with exophthalmic goiter no operation was attempted. These experiences led to considerable experimental research to determine the influence of removal of the thymus in dogs, implantation of thymus and thyroid tissue, and other experiments on these glands. The conclusions drawn from this research are that the thymus hypertrophies as a *natural compensating process* to do the work which the diseased thyroid is unable to accomplish; that is, there is a vicarious enlargement of the thymus. The death of persons with exophthalmic goiter and abnormally large thymus has nothing to do with the "persisting" thymus, but must be ascribed to the injury of the heart from the toxic action of the morbid thyroid secretion. He thinks the thymus is probably an epithelial gland rather than a lymphoid organ, and the more pronounced the disease in the thyroid, the larger we may expect to find the thymus. It may be examined by palpation, percussion and radiography, and if it is found enlarged it is wiser to refrain from operating in a case of exophthalmic goiter, he declares, not on account of danger from the thymus, but because its enlargement shows that the thyroid is ireparably damaged, and the Basedow syndrome in such an advanced stage that the chances for operative recovery are practically zero. At the same time, the chief index of the severity of the exophthalmic goiter is the condition of the heart.

96. **Expulsion of Foreign Bodies, Sutures, Etc.**—Baeyer has been studying the cases reported in the literature of the spontaneous expulsion of foreign bodies either by mechanical or bacterial means, and supplements the lessons thus learned by conclusions drawn from personal experimental research on the ultimate expulsion of foreign bodies incorporated in rabbits. When a foreign body is implanted in the tissues, the *means to prevent its expulsion are strict asepsis*, a compact rather than porous composition, or, if the foreign article is porous, it should be impregnated with an antiseptic. This induces a transient chemical suppuration which aids in *walling off the foreign body; coating* with vaselin or paraffin likewise answers this purpose. The bowel functioning must be regulated before and after the operation to prevent the intestinal bacteria from starting a process leading to *expulsion of the foreign body*. Another important point is that the foreign body should never be implanted during fever; even tonsillitis should contra-indicate it. The foreign body must not slip around in its place; to insure proper conditions in this respect long immobilization is strictly necessary. If this is impossible the serous effusion bathing the foreign body should not be drained away but left to protect it. The

sure and flexion. But if it is due to torsion, immobilization in slight adduction is indicated, the hand slightly flexed and adducted, the arm between supination and pronation. During the immobilization the fingers should be exercised to maintain muscle functioning and after a week the cast should be removed for massage every day, and be discarded by the end of three weeks.

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Lyon Médical, Lyons

November 20, CXV, No. 47, 845-884

66 No Appreciable Influence from Simple Hyperthermia and Febrile Infection on Glycemia. R. Lépine and Baulud.
67 Functions of the Thymus. E. Weill.

Bulletin de l'Académie de Médecine, Paris

November 15, LXXIV, No. 36, pp. 261-338

68 *Comparative Value of Organic Arsenic and Mercury in Syphilis E. Gaucher.
69 *Malta Fever. F. Widal.

68. Summarized in Paris Letter, Dec. 10, 1910, page 2074.

69. **Contagiousness of Malta Fever.**—On Widal's motion the Académie adopted a resolution advocating compulsory notification of cases of Malta fever, after he had discussed several small epidemics of the disease that have occurred in France recently. In most cases infection could be traced to goat's milk, but not always. Even mere contact with the infected goats or with their blood may transmit the disease. Laboratory infection seems to occur more readily with Malta fever than with glanders or plague, and he reported a case in a worker in his own laboratory, who developed a typical case of Malta fever after working on some cultures of the Malta micrococcus. No other source for his infection could be discovered; his habit of laying temporarily his cigarette on his work table probably afforded the opportunity for contagion.

Presse Médicale, Paris

November 16, XVIII, No. 92, pp. 857-864

70 Intoxications. H. Roger.

November 19, No. 93, pp. 865-880

71 *Experiences with Lime in Treatment of Pulmonary Tuberculosis. (Recalcification—méthode de Ferrier—dans la tuberculose pulmonaire.) E. Sergent.
72 Wisdom-Tooth Disturbances. (Péricoronarite dentaire.) P. Fargin-Fayolle.

November 23, No. 94, pp. 881-888

73 Operative Treatment of Hemorrhoids. P. Reclus.

November 26, No. 95, pp. 889-896

74 *Serous Meningitis and Anaphylaxis After Spinal Serotherapy. J. A. Sicard.

71. **Lime in Treatment of Tuberculosis.**—Sergent has been treating pulmonary tuberculosis in the last six years according to Ferrier's recalcification method. This aims to resupply the lime, the loss of which, he believes, prepares the soil for tuberculosis and promotes its development. Sergent here gives the theoretical bases and reviews the results of treatment along this line, regarding it as the best method of treating tuberculosis at our disposal. The aim is to prevent undue loss of lime and to induce recalcification in the decalcified organism. He has applied it in 1,574 cases and states that 306 patients have been under practically constant observation for from six months to five years. General improvement was marked in 96 per cent.; general and local in 40 per cent.; 14 per cent. were apparently cured, while in 14 per cent. the disease continued its course unmodified. Ferrier assumes that the principal cause of the loss of lime is acid fermentation in the digestive tract, which must be prevented, and combated while the lime salts are to be given in substance and in mineral waters.

74. **Serous Meningitis After Intraspinal Serotherapy.**—Sicard calls attention to the meningitis liable to follow intraspinal injection of any substance, but especially of antimeningococcus serum. He applied this serotherapy in certain nervous and mental diseases, epilepsy or psychoses, hoping to modify the permeability of the meninges, and was surprised at the lively reaction that followed even small injections, the temperature rising several degrees, with headache, nausea, a suggestion of Kernig's sign and pains in the legs, all appearing two or three hours after the injection, most intense by the fifth or sixth hour and then gradually subsiding. The spinal fluid was turbid or opalescent, with polynucleosis gradually yielding to lymphocytosis. This reaction to the serum was observed both with normal and with chronically diseased meninges. With acute meningitis the infectious symptoms masked those due to the serum reaction, which explains why the latter has not been recognized before. This reaction has nothing to do with anaphylaxis as it occurs with the first injection. In one case this reaction following the serum injection in meningitis in a young man was assumed to be a flaring up of the infectious process, but the sterility of the cerebrospinal fluid convinced Sicard that it was merely this serum reaction, and the rapid recovery confirmed his assumption. In another case the laboratory findings in the cerebrospinal fluid were negative in a case suspicious of meningitis. The fluid the next day was opalescent and the diagnosis was supposed to have been erroneous until it was learned that in the interim an intraspinal injection of serum had been made. The change in the fluid was merely a serous reaction and the rapid recovery showed that a tonsillitis was responsible for the disturbances.

Revue de Gynécologie, Paris

October, XV, No. 4, pp. 305-400

75 Large Subperitoneal Myxoma of Broad Ligament. H. Brin.
76 *Vagino-Sacral Hysterectomy. (Hystérectomie vaginale à ciel ouvert.) Chaput.
77 *Inflammation of Gastric Cellular Tissue. (Linite plastique.) P. Reymer and P. Masson.
78 Contusions and Traumatic Ruptures of the Duodenum. H. M. Guibé.

November, No. 5, pp. 401-512

79 Double Uterus. Anatomy and Development. G. Piquand.
80 Advantages of Billroth I. Technic for Anastomosis After Pylorectomy. (La suture duodéno-gastrique terminale après pylorectomie.) M. L. Chevrier.

76. **Vagino-Sacral Hysterectomy.**—Chaput asserts that the technic illustrated has the advantages of both the abdominal and vaginal routes; it gives ample access, exposing the parts fully to view, while it is an unusually benign operation and leaves no scar on the abdomen. It is particularly useful for rather inaccessible vesico-vaginal fistulas as well as for operations on the internal genitals. The incision starts from near the right posterior superior spine of the ilium, follows the right margin of the sacrum, passes half way between the anus and the ischium and ends in the center of the right labium. The parts are incised down to the vagina and peritoneum inclusive. The vagina is thus opened through the labium up into the posterior cul-de-sac, a little to the right of the median line. His illustrations show the ample access thus provided and also the practically invisible scar left between the buttocks.

77. **Plastic Linitis.**—There were signs of cancer in the two cases reported by Reymer and Masson, and they say that study of the gastric chemistry in cases of so-called plastic linitis would probably reveal unsuspected malignant disease in many if not in all cases.

Semaine Médicale, Paris

November 30, XXX, No. 48, pp. 565-576

81 *Idiopathic Congenital Dilatation of the Rectum. (Megarectum.) L. Bard.

81. **Idiopathic Dilatation of the Rectum.**—In Bard's case the patient was a farmer of 48, whose rectum was dilated to fill two-thirds of the abdomen, pushing up the diaphragm to the third interspace on the right and to the sixth on the left. The rectum was packed with feces, over 5 pounds being removed, besides a mass nearly 3½ inches in diameter packed in the small pelvis. The man died under choleriform symptoms after a dose of castor-oil. The *remarkable feature* of the case was that the man had never known anything was

wrong in the abdomen; there had never been any symptoms of obstruction or digestive disturbances. The rectum was the only part of the intestine involved. Cough, dyspnea and a tendency to ascites were the only symptoms complained of and the interference with the movements of the diaphragm was probably responsible for them. He was a large eater with stool only about every second day. Bard explains the dilatation in this case as due to a congenital lack of strength and resistance in the walls of the rectum.

Archiv für Gynaekologie, Berlin

XCI, No. 3, pp. 479-761. Last indexed December 17, p. 2187

82 Relations Between Conception and Menstruation and Embedding of the Ovum. S. Gottschalk.
83 Atresia of Follicles in Child Ovaries. W. Benthin.
84 Histogenesis of Corpus Luteum and Products of Retrogression. K. Hegar.
85 *The Wertheim-Schauta Operation for Genital Prolapse. W. Stoeckel.
86 Lecithin Bouillon for Differentiation of Hemolytic Streptococci. A. Hamm and P. Jacquin.
87 Epithelium Development in Vaginal Portion of Uterus. R. Meyer.
88 Erosions and Pseudo-Erosions of Vaginal Portion of Uterus, Congenital and in Adults. R. Meyer.
89 Abdominal Operations for Uterine Carcinoma. K. Franz and A. Zinsser.
90 Lymphangiectasia with Uterine Myoma. R. Todyo.
91 Simulated Superfetation. E. E. Franco.
92 *New Experimental Research on Function of Corpus Luteum. L. Fraenkel.

85. **The Wertheim-Schauta Prolapse Operation.**—Stoeckel has performed this operation in forty cases and discusses several points which he regards as important for the technic. The bladder should be entirely mobilized and the uterus interposed so that it holds the entire bladder evenly on its back. If the uterus shows too strong a tendency to straighten up again there is less chance for its serving the purpose. Unless the uterus can be brought down without force as far as the urethra, he does not attempt to apply this technic. In one case it was a mere accident that he discovered an incipient carcinoma in the corpus as he was about to perform this operation. The patient had no signs of malignant disease and he wavered between the Schauta technic and hysterectomy, finally deciding on the latter. To his amazement he found a flat carcinomatous ulcer in the fundus; since then he has never utilized the uterus in a prolapse operation unless absolutely convinced of the soundness of its interior. For this purpose he curettes a day or so before the contemplated Schauta operation examining the scrapings under the microscope, and before suturing the uterus to support the bladder, he slits the anterior wall and inspects the interior, then curettes, applies the actual cautery to destroy the mucosa throughout, so as to ward off any possible trouble later by obliterating the cavity of the uterus, especially the opening into the tubes. One of his patients succumbed to pulmonary embolism, ten days after the operation, as she was allowed to get up. There was moderate myocarditis in this case; the operation had required only thirty-five minutes, under chloroform, and convalescence had been afebrile. A tendency to slight incontinence in two cases was evidently due to fastening the uterus too high.

92. **Function of the Corpus Luteum.**—Further experiences during the last seven years with 277 new experiments have only confirmed Fraenkel's statements in 1903 based on 120 experiments. All apparently sustain the assumption that the corpus luteum is a gland with an internal secretion, and that this is responsible for the changes and processes which induce the settling down of the ovum in the uterus and control the first few weeks of embryonal life. In the 112 rabbits whose corpus luteum was entirely removed before the fifteenth day after coitus, the pregnancy was completely arrested, while it progressed unmodified in over 50 per cent. of the fifty-three cases in which only part had been removed.

Beiträge zur klinischen Chirurgie, Tübingen

LXX, No. 1, pp. 1-391. O. von Angerer Festschrift

93 Parabiosis by Direct Union of Vessels. E. Enderlen, G. Hotz and H. Flörcken.
94 *Persisting Thymus with Exophthalmic Goiter. H. Gebele.
95 Free Osteoplastics. W. Lobenhoffer.
96 *Expulsion of Foreign Bodies. (Fremdkörper im Organismus.) H. v. Baeyer.
97 Surgical Impressions in America. F. Ebermayer.
98 General Treatment Before and After Operations. E. Leonpacher.
99 Intoxication from Dermatol. L. Dorn.
100 Roentgen-Ray Inspection in Sun-Lighted Room. (Röntgenoskopische Operationen im taghellen Raum.) R. Grashey.
101 Traumatic Retroflexed Coxa Vara. R. Grashey.
102 Injuries of the First Metacarpophalangeal Joint. R. Grashey.
103 Transverse Fracture of the Upper Jaw. (Zur Quérin'schen Transversalfraktur des Oberkiefers.) J. Duschl.
104 Ultimate Outcome of Traumatic Dislocation of the Shoulder. K. Lexer.
105 Brachydactylia. F. Klaussner.
106 Treatment of Injuries of the Lungs. v. Bombard.
107 Primary Operative Treatment of Gunshot Wounds of the Lungs. R. Seggel.
108 *Operative Treatment of Gastric Ulcer. (Zur chirurgischen Behandlung des Magengeschwüres.) A. Schmitt.
109 Splenectomy After Rupture of Spleen and in Malarial Fever. Papaioannou.
110 Hysteric Ileus. R. Dax.
111 Treatment of Diffuse Suppurative Peritonitis. Lunckenbein.
112 Emptying the Stomach in Operating on This Organ. (Mechanismus der Magenentleerung bei Magenoperierten.) C. Maunz.
113 Intrahernial Torsion of the Omentum. (Netztorsion.) A. Schönwerth.
114 *Plastic Closure of Opening in Femoral Hernia. (Neue Art eines plastischen Bruchpfortenverschlusses bei Cruralhernien.) A. Ach.
115 Retrograde Esophagoscopy with Stenosis. (Oesophagusstenosen und ihre Behandlung.) A. Ach.

94. **Persisting Thymus with Exophthalmic Goiter.**—Gebele states that seven died, being 19 per cent. of thirty-six patients with exophthalmic goiter operated on at the Munich surgical clinic. Necropsy was possible in five of the seven fatal cases and a large thymus was found in four out of the five. In six other patients with exophthalmic goiter no operation was attempted. These experiences led to considerable experimental research to determine the influence of removal of the thymus in dogs, implantation of thymus and thyroid tissue, and other experiments on these glands. The conclusions drawn from this research are that the thymus hypertrophies as a natural compensating process to do the work which the diseased thyroid is unable to accomplish; that is, there is a vicarious enlargement of the thymus. The death of persons with exophthalmic goiter and abnormally large thymus has nothing to do with the "persisting" thymus, but must be ascribed to the injury of the heart from the toxic action of the morbid thyroid secretion. He thinks the thymus is probably an epithelial gland rather than a lymphoid organ, and the more pronounced the disease in the thyroid, the larger we may expect to find the thymus. It may be examined by palpation, percussion and radiography, and if it is found enlarged it is wiser to refrain from operating in a case of exophthalmic goiter, he declares, not on account of danger from the thymus, but because its enlargement shows that the thyroid is ireparably damaged, and the Basedow syndrome in such an advanced stage that the chances for operative recovery are practically zero. At the same time, the chief index of the severity of the exophthalmic goiter is the condition of the heart.

96. **Expulsion of Foreign Bodies, Sutures, Etc.**—Baeyer has been studying the cases reported in the literature of the spontaneous expulsion of foreign bodies either by mechanical or bacterial means, and supplements the lessons thus learned by conclusions drawn from personal experimental research on the ultimate expulsion of foreign bodies incorporated in rabbits. When a foreign body is implanted in the tissues, the means to prevent its expulsion are strict asepsis, a compact rather than porous composition, or, if the foreign article is porous, it should be impregnated with an antiseptic. This induces a transient chemical suppuration which aids in walling off the foreign body; coating with vaselin or paraffin likewise answers this purpose. The bowel functioning must be regulated before and after the operation to prevent the intestinal bacteria from starting a process leading to expulsion of the foreign body. Another important point is that the foreign body should never be implanted during fever; even tonsillitis should contra-indicate it. The foreign body must not slip around in its place; to insure proper conditions in this respect long immobilization is strictly necessary. If this is impossible the serous effusion bathing the foreign body should not be drained away but left to protect it. The

incision should therefore be as far away from the foreign body as possible to prevent eventual fistula. The foreign body should be as smooth, light and small as possible and it should be encapsulated before active motion with it is allowed, as in case of an artificial tendon.

108. **Surgical Treatment of Gastric Ulcer.**—Schmitt discusses the indications for operative measures and the results in his sixty-two cases in the last five years. The list includes eight cases of duodenal ulcer. Of the total number, 51.6 per cent. have been cured; 27.4 per cent. improved, and only 4.8 per cent. failed to benefit by the operation, while 16.1 per cent. died. Two of the ten patients with cancer, out of the three treated by resection, were cured.

114. **Plastic Operation for Large Femoral Hernia.**—Ach gives an illustrated description of the technic with which he effectually closes and protects the femoral canal from the rear. He does this with a flap 10 cm. long by about 6 cm. broad, taken from the deep fascia of the thigh on the outside of the front of the thigh. This flap from the fascia lata is drawn up through an incision 1 or 2 cm. above Poupart's ligament and it is then pushed down behind the horizontal ramus of the pubis to the innominate line, so that the flap hangs down into the small pelvis behind the femoral ring like a curtain. It is held in place by being fastened across to Cooper's ligament—the fold of the fascia transversalis—and the latter is then sutured to Poupart's ligament. The front of the flap is thus turned toward the femoral canal and the rear towards the abdominal cavity. He gives the details of three cases in which he has applied this technic on middle-aged women, with eminently satisfactory results to date, over five to eleven months. This technic is designed only for very extensive hernias or for recurrence after failure of other measures.

Berliner klinische Wochenschrift, Berlin

November 14, XLVII, No. 46, pp. 2089-2132

116 Salvarsan ("606") in Syphilis. (Erfahrungen über Applikationsart und Dosierung bei Ehrlich-Behandlung.) W. Gennerich.
117 Biologic Research on Origin of Bone. (Herkunft von Knochen.) K. Steffenhagen and P. W. Clough.
118 Much's Granula in Lupus. (Vorkommnis des Much'schen Tuberkulosevirus bei Lupus vulgaris.) H. Boas and C. Ditlevsen.
119 Quantitative Determination of Diastase in the Urine and Its Relation to Nephritis and Diabetes. O. J. Wynhausen.
120 *Gastric Cancer in Relation to Female Genital Organs. (Magenkrebs in seinen Beziehungen zu den weiblichen Genitalorganen.) E. Runge.

November 21, No. 47, pp. 2133-2176

121 *Local and General Hypersusceptibility to Salvarsan. W. Wechselmann.
122 Salvarsan. O. Rosenthal.
123 Mercury Reactions in Secondary Syphilis. (Quecksilberreaktionen bei sekundärer Lues.) J. Baum.
124 Recurrence of Syphilis as Optic Neuritis After Salvarsan. R. Kowalewski.
125 *Typhoid Bacilli-Carriers in Insane Asylums. (Bedeutung der Bacillenträger in Irrenanstalten.) C. Neisser.
126 Sensitized Tuberculin. (Entgiftete Tuberkuline.) A. Wolff-Eisner.
127 Internal Secretion of the Ovaries and Testicles. (Innere Secretion der Keimdrüsen.) A. Münzer. Commenced in No. 46.
128 Care of Severe Wounds. (Versorgung schwerer Verletzungen.) G. W. Schiele.
129 The Cell Lipoids. (Nachweis, Vorkommen und Bedeutung der Zell-Lipoide.) C. Kaiserling.

120. **Gastric Cancer in Relation to the Female Genital Organs.**—Runge remarks that authors are almost unanimous in regarding the stomach as the site of the primary tumor when coincident ovarian cancer and gastric cancer are found. Metastasis of malignant disease in other organs seldom locates in the stomach; Mengerhausen found no metastasis in the stomach in sixty cases of malignant ovarian disease. The metastasis from the gastric cancer is especially liable to locate in the ovary as the cancer cells are moved along by the intestinal peristalsis, ascites, etc., and alight on the ovaries, the epithelium of the ovaries being particularly permeable for corpuscular elements, the vessel supply of the ovaries also favoring the development of malignant tumors. The congestions, wounds and scar formation in the ovaries connected with the ovulation process are all factors which enhance the predisposition of the ovary to cancerous growths above that of other organs. The patients are generally between 20 and 40 years old, and amenorrhea is constant when the tumors have developed at all. The symptoms on the part of the stomach are overshadowed completely by those from the ovaries. If noted, they are generally considered merely accompanying manifestations of the ovarian trouble. As a rule, both ovaries are affected. The correct diagnosis has been only rarely made; generally the gastric tumor is overlooked. In any operation on the ovaries the stomach should be carefully inspected for possible primary cancer, and the ovaries examined in all operations for gastric cancer, and they should be removed at the slightest sign of enlargement. Some authors advocate removing the ovaries always when there is gastric cancer, even when merely a palliative operation is possible. In a few cases on record a gastric cancer developed during a pregnancy and was the cause of uncontrollable vomiting. In such cases the vomiting commences in the second month of pregnancy or later, mostly in women who had no tendency to vomiting in previous pregnancies. The gastric cancer in these cases seems to run an unusually acute course and the enlarging uterus renders diagnosis difficult. Chemical examination of the stomach content is indicated in suspicious cases. Polano advocates immediate interruption of the pregnancy, followed by removal of the gastric tumor when a cancer is discovered in the stomach of a pregnant woman, although cases are known in which a healthy child was born at term even under these conditions.

121. **By-Effects of Salvarsan.**—Wechselmann supposed it was merely a casual coincidence that a febrile sore throat developed a week after injection of salvarsan in some of his patients, until the regularity of the occurrence led to the discovery that it was an enanthem similar to the exanthem which he observed in a number of others, fully 1 per cent. of his patients exhibiting these by-effects. The remarkable feature about them is that they do not develop until after an incubation averaging nine days, these severe symptoms thus appearing when the main mass of the drug has been eliminated or walled in by a tough wall of tissue. He is convinced that these by-effects are similar in nature to the manifestations of serum sickness, which do not develop until the serum is no longer present in the body as such, and which are explained as the result of the reciprocal action between the organism and the antigen. The same explanation applies also, he thinks, to the Herxheimer reaction. He gives the temperature curves of some typical cases. There did not seem to be any increase in the reaction after repetition of the dose, but he warns that it is wiser to refrain from repeating the dose just at that critical period, from the eighth to the tenth day, when the organism seems to be in an especially sensitive state. To date, he states, these manifestations of hypersusceptibility have proved transient and harmless, but they suggest caution in case of weak heart or other depressing factors. The exanthem appeared coincident with a temperature of 104 F. and resembled that of measles or of scarlet fever, and was accompanied by gastric symptoms, diarrhea, thirst, coated tongue and occasional vomiting; there was much malaise, but the pulse was good and the urine normal. The febrile and other manifestations were still more severe when the enanthem was localized in the throat; it is possible that the gastrointestinal mucosa may be likewise affected. The temperature kept high for five days in one case reported.

125. **Typhoid Bacillus-Carriers in Insane Asylums.**—Neisser reports some experiences which seem to confirm the assumption that insane asylums are peculiarly liable to shelter bacillus-carriers, but inquiry among fifty other German institutions of the kind showed that an epidemic of typhoid had not been known in them for years. Complete isolation of bacillus-carriers seems to be the only means to control contagion from this source, he says. At the Bunzlau asylum in his charge, every new inmate is examined for typhoid bacilli and a special pavillion is devoted to the patients with positive findings. At Emmendingen, during the last two years, eight of the attendants and three of the servants were found to harbor typhoid bacilli. Neisser classes dysentery with typhoid in the necessity for prophylactic measures. He condemns in conclusion the exaggerated dread of bacillus-carriers as the danger of contagion from them cannot be very grave, or more of it would occur.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 10, XL, No. 32, pp. 1065-1096

130 *Momburg Belt Constriction for Post-Partum Hemorrhage. (Zur Behandlung der Post-partum-Blutungen durch künstliche Blutleere der untern Körperhälfte nach Momburg.) A. v. Reding.

131 *The Alleged Harmless Methods of Anesthesia. Dumont. Commenced in No. 31.

130. **Treatment of Post-Partum Hemorrhage with Momburg Belt Constriction.**—Reding applied Momburg's technic of constriction of the waist with rubber tubing in thirty cases to arrest post-partum hemorrhage and in twenty-eight cases the benefit was prompt and gratifying. The bleeding stopped at once and the uterus was stimulated to vigorous contraction. This gave time for tranquil preparation for an application of any other measures deemed desirable. This is one of the greatest advantages of the Momburg technic in general practice, as time is gained. Another advantage is that lacerations can be sutured with slight loss of blood. The women do not seem to mind the constriction; only in three cases were there complaints of pains in the legs. The anemia alone is liable to induce such pains. No other by-effects were noted in these twenty-eight cases, but in two others the procedure had little effect, although both patients were thin and no reason for the failure of the constriction could be discovered. In the first case the hemorrhage was not controlled until after the uterus had been tamponed. In the other case the woman was a iv-para, aged 25, with placenta prævia. The bleeding continued under the Momburg belt and after it was removed and applied again, and persisted even after tamponade. Necropsy failed to reveal the slightest injury from the Momburg constriction. In a third case of placenta prævia the extreme anemia was the primary cause of the collapse that followed loosening of the constricting tube. There is no doubt that the woman would have died without the constriction, which should be weighed in the balance in passing judgment on this collapse for which the Momburg constriction was evidently the occasional cause. His final conclusions from these experiences and from the reports of others are that the Momburg technic is entirely harmless for healthy women who are not very anemic. It should be applied as early as possible in cases of post-partum hemorrhage, before the women have lost too much blood. Extreme caution is necessary with much anemia or heart disease. He thinks that raising the pelvis before applying the tube or before loosening it, when there has been great loss of blood, prevents threatening anemia of the brain and heart, but the possibility of air embolism should be borne in mind and no intra-uterine manipulations should be done while the pelvis is raised. He remarks in conclusion that the Momburg method is not infallible, but it adds one more to our means of combating post-partum hemorrhage.

131. **General Anesthesia.**—Dumont discusses the technics that have been lauded recently as harmless and shows that the authors draw the picture in too favorable colors, especially Jonnesco with his "high spinal technic." Recent statistics have shown that twelve fatalities have been recorded in 2,400 applications of spinal anesthesia; that is, one death in 200, besides five cases of abducent paralysis and four of asphyxia, yielding to artificial respiration, while the postoperative pneumonias amounted to 0.7 per cent. He declares that the problem is not to search for new methods but to teach and practice better technic for the old and tried methods.

Deutsche medizinische Wochenschrift, Berlin

November 24, XXXVI, No. 47, pp. 2177-2224

132 *Origin and Treatment of Detachment of the Retina. (Netzhautablösung.) C. Horstmann.

133 [illegible] terer Ausbau der Sphygmobolometrie untersuchung.) H. Sahli.

134 [illegible] and Murmurs to the Electrocardio- [illegible] der Herztöne und Herzgeräusche zum O. Weiss and G. Joachim.

135 [illegible] ("606") on the Eye. (Wirkung des Dioxydiamidoarsenobenzols auf das Auge). W. Wechselmann and W. Seeligsohn.

136 Vicarious Muscular Action. (Ueber stellvertretenden Muskelersatz.) H. Kron.

137 Case of Paratyphoid Osteoperiostitis. V. Jensen and A. Kock.

138 *Rhythmic Compression of the Heart in Apparent Death. (Anwendung rhythmischer Herzkompression beim Wegbleiben der Kinder und ähnlichen Zuständen.) A. Japha.

139 Economy in Dressings. (Sparsame Verbände, vereinfachtes Verbinden.) Waldow.

140 Microphotography. Berg.

132. **Detachment of the Retina.**—Horstmann remarks that the retina becomes detached only when the pressure from the vitreous humor becomes reduced or a stronger counterpressure from the other side pushes up the retina from below. He advocates recumbency, moderate diaphoresis, subconjunctival injections of salt solution and a light compressing dressing in treatment of detachment of the retina. If several months of this treatment do not induce marked improvement, operative treatment may be proposed, although the prospects are uncertain and dubious. The general treatment above outlined, Uhthoff estimates, will cure in 20 per cent. of the cases; Schmidt-Rimpler cured fourteen and materially improved twenty-eight out of seventy-six patients, and Horstmann himself has cured with good vision 14 per cent. of fifty patients. Not until medical measures have completely failed should an operation be considered. He warns against every method which requires an injury of the retina or vitreous body.

138. **Rhythmic Compression of the Heart for Apparently Moribund Children.**—Japha reports two cases in which apparently moribund infants were treated by rhythmic compression of the heart and revived. The yielding thorax of a child renders this external manipulation more efficient than with the rigid chest of the adult. He does not ascribe the effect to the mechanical influencing of the circulation, but to reflex action. In the first case described a twelve-day infant with signs of heatstroke, unconscious, deeply cyanotic, with foam at the mouth, the pulse scarcely perceptible, respiration 80 to the minute, improved rapidly under the rhythmic compression of the heart and soon recovered after injection of camphor, and cold douches in a warm bath. The other child was a month old and apparently moribund, cyanotic, the temperature 43.3 C. (110 F.), the heart-rate 180, the breathing reduced to gasps at long intervals. Under the compression of the heart and a bath with a cold douche, the temperature dropped to normal and all symptoms soon subsided. Both children are now nearly 2 years old and apparently normal in every respect. The thumb of the right hand is placed between the sternum and the apex and the chest-wall is pressed in rhythmically and deep, about 120 times in a minute (*120 rhythmische Herzstösse*). He thinks that this measure might prove effectual in pneumonia, in spasm of the glottis and in chloroform syncope. Under the rhythmic compression the pupils contract, the face grows less livid and a normal inspiration follows. He has been applying it for years for spasm of the glottis and has had no further fatalities from this cause, and he commends this measure in all such catastrophes and in those with anesthetics. What good does it do, he asks, to exhibit ether or chloroform when in consequence of the spasmodic closure of the glottis the patient is unable to breathe? The rhythmic compression of the heart is more effectual in many cases than artificial respiration. (In this connection we quote a recent case of successful massage of the heart in an apparently fatal early chloroform accident. The patient was a robust man and the operator, J. W. Milne, at once cut into the abdomen to the left of the xyphoid cartilage, and wormed his thumb down to the peritoneum and up through the diaphragm margin till he had it well behind the heart and the other fingers over the heart outside. He says in his communication to the *British Medical Journal*, Nov. 19, page 1657, "I now began to squeeze the heart as one does the bulb of an enema syringe, and never shall I forget the kick and wobble, or rather thrill, that the heart gave in response to the very first compression. It reminded me of the feel of a trout when one grabs it below a bank or boulder. I kept pumping away and all the symptoms disappeared, the first symptom of revival being contraction of the pupil. The patient to this day wonders why the upper wound was necessary to remove one *little* appendix".)

Medizinische Klinik, Berlin

November 27, VI, No. 48, pp. 1885-1920 and Supplement

141 Diet in Health Resorts and Institutions. (Diät und Mineralwässer; Diätkuren. II.) A. Strasser.

142 Urotropin in Treatment of Meningitis, Especially in Children. J. Ibrahim.

143 Plastics During and After Operations on the Ear. Preysing.

144 Technic of Intravenous Injection of Salvarsan. (Zur Technik der intravenösen Hatainjektion.) H. Assmy.

145 Incarcerated Hernia. (Pathogenese, Diagnose und Therapie der eingeklemmten Hernien.) A. Most.

Monatsschrift für Kinderheilkunde, Leipsic

November, IX, No. 7, pp 343-382. Last indexed December 24, p. 2276

146 Physiologic Variations in the Leukocyte Count in Breast-Fed Infants. W. Wernstedt.
147 Spasmodic Cough and Spasmophilia. (Pertussis, bezw. pertussis-ähnlicher Husten, und spasmophile Diathese.) W. Wernstedt.
148 Idiosyncrasy to Cow's Milk in Infants. (Zur Frage der Kuhmilchidiosynkrasie im Säuglingsalter.) W. Wernstedt.
149 Treatment of Furunculosis in Infants. E. Schloss.
150 Importance of Carbohydrates with Fat in Food. (Bedeutung der Kohlehydrate bei fettreicher Ernährung.) H. Helbich.
151 Ash in Brain with Spasmophilia. (Aschgehalt in den Hirnen Spasmophiler.) E. Aschenheim.
152 *Uncontrollable Vomiting with Congenital Megacolon. (Hirschsprungsche Krankheit unter dem klinischen Bilde unstillbaren Erbrechens.) H. Kleinschmidt.

152. **Fatal Vomiting with Congenital Megacolon.**—Nothing during life suggested Hirschsprung's disease and nothing could be discovered to explain the incessant vomiting in an infant about eight months old, until necropsy revealed typical congenital megacolon, the abnormally long and large bowel having become kinked and twisted.

Münchener medizinische Wochenschrift

November 22, LVII, No. 47, pp. 2449-2504

153 *Necessity for Caution in Administering Iodin. L. Krehl.
154 *Intermittent Limping in Connection with Tobacco. (Zur Klinik des intermittierenden Hinkens.) W. Erb.
155 *Recurring Effusion with Neuralgia of Joints. (Zur Aetiologie des rezidivierenden Gelenkhydrops der Gelenkneuralgie.) C. Garrè.
156 Participation of Blood-Vessels in Movement of the Blood. (Anteil der Blutgefässe an der Bewegung des Blutes.) J. Strasburger.
157 Modern Arsenic Treatment of Syphilis. K. Zieler.
158 Technic for Injection of Salvarsan. (Einfache und praktische Injektionsmethode des Ehrlich Hata-Präparates 606.) A Pasini.
159 Roentgen-Ray Diagnosis of Callous Gastric Ulcer. M. Haudek
160 Matrimony for Girls with Heart Disease. (Zur Frage der Ehe bei herzkranken Mädchen.) R. T. Jaschke.
161 Operative Cure of Cerebellar Cyst. R. Cassirer and V. Schmieden.
162 Permanent Cure of Carcinomas After Radium Exposures. A. Exner.
163 Hyoscyamus Poisoning. (Eine Massenvergiftung durch den Genuss der Wurzel von Hyoszyamus niger.) Philippi and Mühle (Davos).
164 Improved Rapid Azure-Eosin Romanowsky Stain. G. Giemsa.
165 Simplified Technic for Wassermann Reaction. E. Steinitz.
166 Operation for Phimosis. Drüner.
167 Fenestrated Sound for Diagnosis of Esophageal Cancer. (Einfaches diagnostisches Hilfsmittel bei Speiseröhrenkrebs.) Brünings.

153. **Necessity for Caution in Administration of Iodin.**—Krehl warns that there is necessity for great caution with iodin, especially in cases of arteriosclerosis with enlargement of the thyroid. If there is the slightest sign of perverted thyroid functioning it is better to refrain from it entirely. He has been studying this subject for eight years at Heidelberg, where thyroid disease is common and in many cases the first symptoms of toxic thyroid functioning had developed after a physician had prescribed iodin. In a number of cases a patient with goiter grew very thin and hidden cancer was assumed, but hyperfunctioning on the part of the thyroid was the real cause of the cachexia; it always proved that the patient had been taking iodin, possibly even for a very short time, and that his emaciation or restlessness, excitability or lassitude, dated from that time. Some of the patients had apparently only nervous or psychic disturbances. In some cases there was an apparently causeless fever; this is much more common with thyroidism than physicians generally appreciate. With the iodin cachexia the retention of a good appetite is an important differential point. With arteriosclerosis and apparently normal thyroid functioning, iodin is a useful measure, but its administration should always be under medical supervision. Thyroidism liable to be brought on by iodin does not cease when the iodin is suspended, and it may possibly progress to a serious form as in several of his patients, who had taken but 1 gm. of potassium iodid daily for two weeks, on account of existing or supposed arteriosclerosis, in whom severe thyrotoxic conditions developed.

154. **Intermittent Limping.**—Erb reports that he has had fifteen additional patients with this affection since his last communication recently reviewed in these columns, and states that 14 per cent. of his total material of fifty patients with arteriosclerotic dysbasia were excessive smokers, consuming from 50 to 150 cigarettes a day, and 44 per cent. were great smokers. Thus the abuse of tobacco was evident in 58 per cent. of his fifty cases, and there was a large proportion of moderate smokers among the rest. In 300 other patients, free from intermittent limping, only 19 per cent. were great smokers, showing the large preponderance of excessive smokers among the patients with arteriosclerotic dysbasia. He states further that 84 per cent. of all his patients who were excessive smokers had unmistakable signs of arteriosclerosis.

155. **Recurring Effusion in the Joints with Joint-Neuralgia.**—Garrè reports some cases of supposed neuralgia in a joint which proved to be the result of a minute focus in the adjoining long bone, so small that it escaped all detection. In one case the neuralgic pains in the knee for six years were finally traced to a minute process in the epiphysis, scarcely as large as a bean and visible with the Roentgen rays only from the front. A splint removing the weight from the knee and worn for three years seems to have entirely cured the trouble. The neuralgic pain in the knee returned twice when the splint became defective but subsided at once when it was repaired. In another case an effusion in the knee dominated the picture at last after six years of recurring neuralgia; then a minute focus was discovered and all trouble was cured by curetting the osteomyelitic lesion. In both these cases there had been a slight trauma in the knees years before. In a third case the patient's complaint of an industrial trauma had been disregarded until a focus of periostitis became manifest and a minute shadow was seen with the Roentgen rays 1 cm. below the articular cartilage. In these and in a fourth case the tiny focus in the epiphysis was the sole localization of the pyemic bone process which at no time in its course had presented the typical picture of osteomyelitis.

Wiener klinische Wochenschrift

November 17, XXIII, No. 46, pp. 1625-1666

168 *Clinical Diagnosis of Cancer. R. Paltauf.
169 Xanthelasma and Jaundice. F. Chvostek.
170 *Temporary Sterilization of Women. C. J. Bucura.
171 Influence of Menstruation on the Neuropsychic Sphere of Women. J. v. Jaworski.

November 24, No. 47, pp. 1667-1702

172 *Salvarsan ("606") in Syphilis. E. Finger.
173 *Operative Treatment of Acute and Chronic Pancreatitis. J. Goblet.
174 Isolation of Oxybutyric-Acid Producers in Stools. (Studien über Darmfäulnis. VII.) A. Rodella.

168. **Clinical Diagnosis of Cancer.**—Paltauf's article was read at the recent cancer conference at Paris. He reviews the various new methods for clinical diagnosis of cancer, especially gastric cancer, stating that the precipitin and complement-binding reaction, as also the tests based on anaphylaxis, have given negative results which harmonize with the fact that no one has ever succeeded in determining the presence of a foreign albumin in the tissues of malignant tumors. More important is E. Freund's discovery that the serum of normal human beings has a destructive action on cancer cells, and he traced this destructive action to the lecithin element. He discovered further that not only is the serum in cases of cancer lacking in this lecithin element, but there seems to be also some substance in the cancer serum which protects the cancer cells. He further found that the cancer serum induces precipitation in cancer extract; precipitation is not obtained under other conditions. He found this turbid precipitation in the serum in *fifty-four cancer patients*, while it was constantly absent in the serum from forty-five patients with various non-cancerous affections. Paltauf regards these findings as very important. They are confirmed by C. Neuberg's discovery of the same phenomenon by another route, namely, the clearing up of a suspension of cancer cells when normal serum is added to it. Ascoli's meiostagmin reaction seems also to have an indirect connection with it as the physical-chemical changes in the solution are the manifestations of this difference between cancerous and normal serum. The concordant findings of three research workers by different routes are highly remarkable. Freund regards his findings as the expression of a predisposition on the part of cancer patients. On the other hand, the healthy possess an immunity

to cancer—their serum destroys the cancer cells—but this property may be gradually lost and may finally yield to extreme susceptibility as with universal metastasis. Freund's findings show that the euglobin in the blood of cancer patients behaves towards the lipoids differently from normal serum. His findings further explain certain histologic processes with incipient carcinoma and harmonize with pathologic and anatomic observations. They may possibly throw light not only on the clinical diagnosis but on the whole cancer problem.

170. **Temporary Sterilization of Women.**—Bucura suggests slitting the broad ligament just below the ovary and burying the latter under the peritoneum and suturing the peritoneum above it, so that the ovary is completely excluded from the region of the tube and uterus. Success depends on the minutely careful suturing, so that no ovum can find its way out of the pocket in which it is buried. If at any future time the conditions permit conception, it would be an easy matter to release the ovary which would then resume its normal functioning as nothing has been done to interfere with its integrity. He has confirmed the feasibility of the operation on animals, but has not yet applied it in the clinic. The article is illustrated.

172. **By-Effects with Salvarsan.**—Finger states that in the five months since he has been using salvarsan 170 syphilitics have been treated with it and all but thirty-eight have been kept under supervision. The results of treatment do not indicate, he says, that the salvarsan has any more effectual action on the syphilitic process itself than the usual methods of treatment, while the harmlessness of the drug has by no means yet been demonstrated. In his own experience, four of the patients presented serious disturbances on the part of the eyes and three others disturbances in the internal ear. The first patient was a robust girl of 19, and two months after the injection of salvarsan (which had been made two months after primary infection), she returned complaining of headache, vertigo and impaired vision in the right eye. As the Wassermann reaction was positive, she was given another injection of salvarsan, followed by mercury and iodid, but there has been no improvement in the condition, and the left optic nerve now also shows signs of neuritis. Incipient atrophy of the optic nerve was also discovered in another patient who had seemed to be much benefited by the injection of salvarsan after two years of the usual measures had proved inefficient to cure the malignant syphilis; the treatment had included thirty injections of arsacetin and eighteen of enesol. Three months after the injection of salvarsan, incipient atrophy of the optic nerve on both sides became manifest. In the fourth case the syphilis was of five months' standing when the salvarsan was injected, and three months later there were evidences of right peripheral choroiditis with central turbidity of the vitreous body humor. In two of the cases the Wassermann reaction had become negative. Wechselmann has also reported choroiditis, paresis of the ocular muscles and iritis, as remarkable forms of recurrence of the syphilis a few weeks or months after the salvarsan injection. Fischer has reported severe papulous iritis in four cases and neurochorioretinitis in another case from two to three months after the injection. All these are occurrences which are never observed under ordinary mercurial treatment in this early stage of syphilis. The same can be said of Finger's three cases in which the acoustic nerve was affected. In the first with nystagmus, vertigo and typical tendency to fall, the hearing was intact, indicating that the vestibular nerve had been alone shut off in some way. The symptoms all passed away in a few days, but in the two other cases the trouble was evidently in the true nerve of hearing and the deafness and vertigo have persisted unmodified to date. In these three patients the Wassermann reaction has been persistently negative and the auditory disturbances did not develop until from nine weeks to nearly four months after the injection in the last two cases, but they came on the day after the injection in the case in which they proved transient. His experience shows, he says, that salvarsan has great symptomatic efficiency, but that it does not eradicate the disease.

173. **Treatment of Pancreatitis.**—Gobiet reports a case of severe acute pancreatitis in which the patient, a woman of 57, was promptly cured by exposure of the pancreas by incision and tamponing. He calls attention to the isolated distention of the transverse colon which occurred as an early symptom in this case. Discovery of this should suggest the possibility of pancreatic disease and compel exposure of the gland even when the abdominal syndrome shows no other symptoms pointing to pancreatitis. With chronic pancreatitis without gall-stones but with stagnation of bile, cholecystenterostomy should be done. If there are gall-stones the indications for them dominate the syndrome, but whenever *the pancreas is found enlarged with patches of induration*, decapsulation and incision and partial excision with drainage should supplement the operation on the biliary apparatus. In the rare cases of inflammation of the body of the pancreas without gall-stones and stagnation of bile, the decapsulation and incision of the pancreas are sufficient.

Zentralblatt für Chirurgie, Leipsic

November 12, XXXVII, No. 46, pp. 1465-1488

175 *Aspiration Drainage of Bladder. (Aspirationsdrainage der Blase.) A. Barth.
176 *Operation for Exstrophy of Bladder. F. Fink.
177 *Diagnosis and Treatment of Kidney Tuberculosis. (Nierentuberkulose.) C. Longard.

175. **Aspiration Drainage of the Bladder.**—Barth has found even the retention catheter unsatisfactory for draining the bladder after operations on this organ, especially after prostatectomy or stone operations on an infected bladder. Even siphon drainage requires the closest supervision. A much simpler and more reliable measure is the use of a Bunsen aspirating jar insuring regular, constant aspiration under mild negative pressure. He uses two jars connected with a long tube entering close to the bottom of each; one stands on the floor, the other on a stool or table. When the higher is filled with water and plugged with a rubber stopper, the water flowing into the lower jar leaves a vacuum, that is, negative pressure, in the higher jar. A glass tube through the rubber stopper is connected by a rubber tube with the retention catheter, or a receiving jar with two tubes in the stopper may be interposed. The urine as it is aspirated drops regularly into the first, interposed, jar and a glance at this jar shows the color, amount and regularity of the drainage. A difference of about 18 or 19 inches between the levels of the vacuum jars is ample for the aspiration. By this means the urine is collected neatly and without odor. The receiving jar can be removed and cleansed every twenty-four hours without interfering with the vacuum, by clamping the tube beyond. This contrivance will be found useful also for drainage of other organs. In one case an elderly man with a fistula after perineal prostatectomy, which absolutely refused to heal, was finally cured under this aspirating drainage through a retention catheter.

176. **Operation for Exstrophy of the Bladder.**—Fink utilizes the appendix for the outlet to the new bladder made by drawing up the bladder tissue present. This has the advantage of using the anatomically and physiologically normal bladder tissue. The appendix provides an outlet for the urine into the cecum, the valves serving to prevent penetration of gas and feces into the bladder. He has applied the operation in only one case and the much debilitated child did not survive it. He has not had opportunity since, but he thinks that this technic has several advantages, not the least of which is the continence which it promises. If infection should occur, the appendix could be drawn out through the skin.

177. **Treatment of Renal Tuberculosis.**—Longard comments on the mishaps in treatment of renal tuberculosis, and thinks that they might be avoided with the technic which he has applied in two cases. The patients were able to be up and about in ten days. The question is to determine which kidney is the diseased one, or, if both are affected, has one sufficient functionally capable parenchyma to permit the removal of the other? None of the ordinary technics allows a reliable answer to these questions; consequently he advocates and practices the following method: (1) exposure of the presumably sound kidney, with reposition and primary suture if found sound; (2) exposure of diseased kidney, loosening, ligating and severing the vessels; (3) detaching the ureter

towards the small pelvis, still connected with the kidney; (4) incision parallel to Poupart's ligament through which the kidney with its ureter is drawn; here the ureter is sutured and the wound sutured around it; (5) primary suture of the other incision, and (6) 4 or 5 cm. from the wound the ureter is ligated and the kidney cut from it with the actual cautery.

Nordiskt Medicinskt Arkiv, Stockholm

XLIII, Internal Medicine, No. 2. Last indexed Nov. 12, p. 1772

178 *Influence on Growth and Ossification of Exophthalmic Goiter and Analogous Conditions. I. Holmgren. Commenced in No. 1.
179 *Acute and Subacute Dilatation of the Stomach. O. Hanssen.

178. **Influence on Ossification and Stature of Thyroid Hyperfunctioning.**—Holmgren presents and discusses about all that is known in this line to date, reviewing 353 articles and his own wide experience. It seems evident that the thyroid has control of the growth of the bones, and that infections, by their action on the thyroid, are able to promote the growth of the bones in length and thus increase the stature. In his own experience a blonde complexion or unusual height for the age or both almost invariably accompanied thyroid hyperfunctioning. The 240-page article is in German.

179. **Acute Dilatation of the Stomach.**—Hanssen remarks that the frequency of acute dilatation of the stomach as a postoperative complication has brought it into the limelight in the last decade, but cases due to overfilling of the stomach were described centuries ago. He tabulates ten postoperative cases from recent Norwegian literature, and mentions three from Sweden and two from Finland; no case has been published in Denmark. Hanssen has encountered one case himself, and gives the details of this and of ten other cases at the Christiania general hospital. The patients were four women and seven men, aged from 15 to 37; two were healthy when the acute dilatation occurred, and in two other cases the dilatation occurred after an operation on the knee. All the patients died in from one to three days. The correct diagnosis was made in only two cases; in two the trouble was supposed to be poisoning from the antiseptic that had been used. In the others ileus or peritonitis was assumed. It seems to be the general rule that the first case, at least, of acute dilatation of the stomach that occurs in a hospital is never recognized as such. He lays great stress on careful preparation for operations and careful diet during convalescence from acute diseases, especially typhoid, as important in prophylaxis. If the dilatation has occurred, rinsing out the stomach, resting it completely afterward, and stimulants, especially saline infusion, are the main points in treatment. Neck advocates lavage of the stomach three times a day as the general rule. It may be necessary to raise the pelvis to facilitate the outflow of the fluid. Placing the patient in the ventral decubitus has proved effectual in the experience of some clinicians, but in Rosenthal's case harm resulted, and Borchardt has reported aggravation of symptoms from the "cow position" (*Lage à la vache*), recommended by Albrecht. Landau, Hanssen quotes, compares this position treatment with taxis in hernia. Kelling recommends raising the pelvis, the patient lying on the left side. Engström suggests that possibly good might result from introducing a speculum into the vagina, suddenly spreading it and thus pushing the intestines out of the small pelvis. Fürstner has reported success in some mild cases with Faradization and Erdmann with cold packs. Atropin has been recommended, but Hanssen protests that this has a weakening influence on peristalsis. In an operative case reported by Lennander and one by Sommarin the acute dilatation of the stomach was found accompanied by volvulus of part of the small intestine. In an additional case reported by Hanssen in which the acute dilatation came on a few days after a cancer operation, the symptoms subsided under lavage of the stomach and saline infusion, but there was an acute exacerbation nine days later and necropsy disclosed volvulus of the jejunum. Kehr and Tschudy, among others, have been successful with gastro-enterostomy, but most writers warn against operative interference. An early diagnosis and prompt measures for relief will generally forestall the necessity for an operation. The article is in German.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

LA STENOSE DU PYLORE, PAR HYPERTROPHIE MUSCULAIRE CHEZ LES NOURRISSONS. Par M. Pierre Fredet, Chirurgien, et M. Louis Guillemot, Médecin des Hôpitaux de Paris. VI cong. de gynéc., d obst., et de paediat., tenu à Toulouse en Septembre, 1910. Paper. Pp. 83, with illustrations. Toulouse: Librairie de l'Université, 14, rue des Arts (Square du Musée), 1910.

EMANUEL SWEDENBORG'S INVESTIGATIONS IN NATURAL SCIENCE AND THE BASIS FOR HIS STATEMENTS CONCERNING THE FUNCTIONS OF THE BRAIN. By Martin Ramstrom. (Till Kungl. Vetenskaps-Societeten I Uppsala vid dess 200-Arsjubileum af Uppsala Universitet. Den 19 November, 1910.) Paper. Pp. 59, with 4 illustrations. University of Uppsala, 1910.

REPORT ON HIGHER EDUCATION IN THE STATE OF NEW YORK. For the School Year ending July 31, 1909. Reprinted from the sixth annual report of the Commissioner of Education of the State of New York as submitted to the Legislature Jan. 24, 1910. Paper. Pp. 516. Albany: New York State Education Department, 1910.

TASCHENBUCH DER PATHOLOGISCHEN ANATOMIE. Von Dr. Edgar Gierke. I. Allgemeiner Teil. II. Spezieller Teil. Dr. Werner Klinkhardt's Kollegheft. Heft 5 and 6. Paper. Price, 3 and 4 marks. Pp. 143, with 69 illustrations, and 207, with 58 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

MOTO-SENSORY DEVELOPMENT. Observations on the First Three Years of a Child. By George V. N. Dearborn, Professor of Physiology in the Tufts College Medical and Dental Schools, Boston. Educational Psychology Monographs. Cloth. Price, $1.50. Pp. 215. Baltimore: Warwick & York, 1910.

THE PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Medicine, Medical College of Ohio. Second Edition. Cloth. Price, $5. Pp. 172. New York: D. Appleton & Co., 1910.

CLINICAL PATHOLOGY IN PRACTICE. With a Short Account of Vaccine-Therapy. By Thomas J. Horder, M.D., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. Cloth. Price, $3. Pp. 216, with 6 illustrations. New York: Oxford University Press, 1910.

HAUT- UND [illegible] Von Dr. Felix Pinkus, Privatdozent. [illegible] Medizin, herausgegeben von Prof. Dr. Ph [illegible] Band II. Paper. Price, 7 marks. Pp. 272, with 68 illustrations. Leipsic: Dr. Werner Klinkhardt, 1910.

UEBER DIE VERSCHIEDENEN LYMPHOIDEN ZELLFORMEN DES NORMALEN UND PATHOLOGISCHEN BLUTES. Von A. Pappenheim in Gemeinschaft und Mitarbeit mit A. Ferrata. Paper. Price, 6 marks. Pp. 132, with illustrations. Leipsic: Dr. Werner Klinkhardt, 1910.

A MANUAL OF PHARMACY FOR PHYSICIANS. By M. F. DeLorme, M.D., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition. Cloth. Price, $1.25 net. Pp. 199, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

HANDBUCH DER BIOCHEMIE DES MENSCHEN UND DER TIERE. Herausgegeben von Dr. Carl Oppenheimer in Berlin. Twenty-Sixth and Twenty-Seventh Instalments. Paper. Price, 5 marks each. Pp. 241 to 400 and 401 to 595. Jena: Gustav Fischer, 1910.

INNERE MEDIZIN. Von Dr. Georg Zuelzer. I. Teil. Leitfäden der praktischen Medizin, herausgegeben von Prof. Dr. Ph. Bockenheimer, Berlin. Band III. Paper. Price, 7.50 marks. Pp. 330, with illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

LEHRBUCH DER UROLOGIE UND DER KRANKHEITEN DER MÄNNLICHEN SEXUALORGANE. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Paper. Price, 13.50 marks. Pp. 522, with 162 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

SECURING EFFICIENCY IN RAILROAD WORK. Story of an attempt to apply Scientific Management to Some Departments. A Lecture delivered at Harvard Nov. 16, 1910. Paper. Pp. 38. New York: Harrington Emerson, 30 Church Street.

FOURTH REPORT OF THE BABIES' DISPENSARY AND HOSPITAL OF CLEVELAND. For the Year Ending Sept. 30, 1910. Paper. Pp. 47, with illustrations. The Babies' Dispensary and Hospital, 2500 East Thirty-Fifth Street.

PRINCIPLES OF THERAPEUTICS. By A. Manquat, National Correspondent to the Académie de Medicine. Translated by M. Simbr[illegible] Gabriel, M.D. Cloth. Price, $3 net. Pp. 298. New York: [illegible] Appleton & Co., 1910.

PUERPERAL INFECTION. By Arnold W. W. Lea, M.D., Lecturer in Obstetrics and Gynecology, the University, Manchester. Cloth. Price, $9. Pp. 384, with illustrations. New York: Oxford University Press, 1910.

CARE OF THE PATIENT. A Book for Nurses. By Alfred T. Hawes, M.D. Cloth. Price, $1 net. Pp. 173, with 6 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

TWENTY-FIRST ANNUAL REPORT STATE OF NEW YORK STATE COMMISSION IN LUNACY. Statistics of the Insane, 1908-1909. Paper. Pp. 85, with illustrations.

ANNUAL REPORT OF THE MOUNT SINAI HOSPITAL OF BOSTON. For the Eighth Year. Jan. 1 to Dec. 31, 1909. Paper. Pp. 29. 17 Staniford Street, Boston.

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WHY THE GENERAL PRACTITIONER SHOULD STUDY THE SURGICAL DIAGNOSIS OF GASTRIC AND DUODENAL ULCER

REPORT OF CASES

J. N. HALL, M.D.
DENVER

I base my conclusions on 203 successive cases of gastric and duodenal ulcer, of which ninety-three cases came to operation or exploration. The operations were done chiefly by Drs. Craig, Fleming, Freeman, Lyman, and Perkins of Denver, several by other Colorado surgeons, and a few by the Mayos and other surgeons outside of Colorado. To all of these gentlemen I make my acknowledgments, as well as to the physicians with whom I have seen the majority of the cases. Fifty of these cases formed the basis of a previous report.

In the study of this disease we may find, I believe, a greater diversity of opinion among clinicians of experience as to frequency, symptomatology, gravity and treatment, than in the study of any other serious and common ailment. We find in the recent literature excellent reports of hundreds of cases of gastric and duodenal ulcer by the operating surgeons studied chiefly from the point of view of the surgeon, but throwing little light on certain questions of the utmost interest to the medical man. On the other hand, we have long discussions from the medical side giving minute conclusions as to the rarity or frequency of ulcer, as to its symptomatology, as to the danger of obstruction of the pylorus, or the development of cancer, and as to the medical treatment of the disease, with, in many cases, a total disregard of the abundant material which has been furnished us by the surgeons in recent years, and which offers the physician his greatest opportunity for adding to his knowledge of the disease. Many writers offer conclusions freely as to diagnosis and treatment who apparently, from the utter absence of any mention of the matter, have never seen half a score of such patients on the operating table. The moderate number of the cases which I have seen prevents my making any very positive statements in regard to many interesting features of peptic ulcer.

I shall be ready to modify those given when convinced of the need by reports of much larger numbers of cases presented by clinicians of greater experience who see these cases as I do, from the standpoint of the medical consultant, rather than from that of the family physician, the surgeon, or of the gastro-enterologist. In my opinion, one ought to correlate his knowledge of the medical aspects of ulcer with that to be obtained on the autopsy table, and vastly more important, with that from the operating room, and season it all with what wisdom he may have gathered from a wide, general medical experience before being over-positive in his conclusions. I regret my inability to reach any such ideal, but since I have been asked for them, I shall give the best conclusions that my experience permits me to draw.

I should state in advance that these cases were derived from a general consultation practice, not 5 per cent. of them being strictly personal cases. They should not be regarded at all as being Denver cases, since they came from a dozen states. They therefore probably represent a much more severe type of disease than would an equal number of cases seen in a large dispensary service or in family practice. As Jacobi pointed out in the discussion on ulcer in the Section on Practice of Medicine at the last meeting of the American Medical Association, we must be extremely careful not to draw too general conclusions from the study of material drawn from a single source, because severe cases present themselves in one clinic, and mild ones, more nearly representing the general average type, in another.

In a previous article,[1] I drew attention to the great advantage of studying the symptomatology of ulcer from cases in which the diagnosis was established by operation. I undoubtedly erred somewhat in my conclusions, since the milder cases do not come to operation, and their symptomatology should be studied separately.

My further study has confirmed my previous opinion that the symptoms and signs most constant and valuable in the diagnosis of ulcer rank about as follows (taken from previous series):

1. Pain	82 per cent.
2. Persistent sour stomach	80 per cent.
3. Tenderness	70 per cent.
4. Vomiting	66 per cent.
5. Rigidity	60 per cent.

Vomiting of blood occurred in the ninety-three cases with operation seventeen times, or 18.3 per cent.; melena was noted in nine cases, or 9.6 per cent. Thus blood was passed or vomited in approximately 28 per cent. of the series.

I have classed the ulcers, after reviewing my previously reported cases, as gastric, pyloric and duodenal, there being fourteen, sixty-one and fifteen in these respective classes in the complete series, while in three cases in which operation was done elsewhere I did not learn of the exact location.

In twelve of the sixty-one pyloric cases only an obstructing scar of previous ulcer existed. I do not doubt that many of my pyloric cases would be classed as duodenal by many physicians. The overwhelming majority of ulcers demanding operation are evidently situated close to the pylorus. In this series obstruction in some degree was present in practically all cases of pyloric ulcer. Many of the definitely gastric ulcers were brought to operation, because of perforation, impending perforation, disability because of adhesions or development of cancer, but not often from dilatation of the stomach.

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[1] The Diagnosis of Gastric Ulcer as Tested by Operation, Am. Jour. Med. Sc., May, 1909.

Cancer was proved in six cases, with definite evidence of ulcer as the starting point, a percentage of 6.4. In several of these, perfectly typical histories of ulcer extended over periods of years. In three other patients the presence of a tumor developing on a previous ulcer was assumed to indicate cancer from the extensive glandular involvement and rapid downward course. Two of these were alive when last reported. No fair-minded clinician without a vastly greater experience on which to base his opinion can properly maintain in the face of such evidence as this, and the reports from numerous surgeons and pathologists, that cancer is not a frequent development in cases of peptic ulcer. The mere fact that in the milder type of cases occurring in average family practice cancer is not often noted is not to be balanced against such showings as I have quoted.

My conclusions, from a study of the previous series, that pyloric ulcer is likely to leave permanent obstruction, if it heals, or to lead to cancer if it does not, is confirmed by my further experience. If medical treatment, which I try faithfully in the milder cases without obstruction, does not give a practical cure in a few months, I cannot conscientiously continue it, nor can I believe it right that advice, from those not thoroughly familiar with the surgical aspects of this disease, to continue medical treatment should prevail. Unfortunately much of the current literature, especially in text-book form, has been promulgated by those who see only the medical aspects of ulcer, and who are, I believe, prejudiced against surgical procedures without proper reason.

Since the introduction of the modern gastro-enterostomy I have seen no case of "vicious circle." The results in sixty-eight of the seventy-nine cases in which gastro-enterostomy was performed are classed as good, and in the more recent ones, better selected than those of earlier years, they are almost uniformly good.

In six cases exploration only was done, cancer or other hopeless condition presenting. Out of six cases of perforation four were closed by suture without gastro-enterostomy, the latter operation being omitted because obstruction did not exist or the patient's condition was too desperate. Three of the patients recovered. In one case Finney's operation was done, one ulcer was excised, and adhesions were broken up in one case. In one case in which operation was done elsewhere I did not learn the exact nature of the operation performed. I am satisfied that we have not excised so many ulcers involving the pylorus as we should, for the tendency is, because the results of gastro-enterostomy are so good, to avoid the heavier mortality involved in excision. I believe that Rodman's operation is demanded if much infiltration exists around the ulcer.

I believe that more attention must in future be given to the group of signs and symptoms which we have considered above, and less to the laboratory findings if we are to make early and correct diagnoses in cases of peptic ulcer. The question in the severe cases is commonly whether to operate or not to operate, and this is never settled in the laboratory. While we should give due weight to the analysis of the gastric contents, the search for occult blood, the leukocyte count, and other laboratory procedures, we should hold all these factors subservient to the history and bedside examination. A reliable history of continuous sour stomach is of more value than a gastric analysis, and a history of hematemesis than a report of occult blood in the stools. Rigidity and tenderness, as determined by the trained clinician, outweigh all the evidence from the laboratory in these cases.

How deceptive the inferences to be drawn in a certain type of gastric disease may be, is illustrated by the following case, not included in the list, the patient being now in the hospital.

> A man of 35 had been well until four months previously. Then persistent sour stomach, pain, vomiting and hematemesis came on. I found that he had lost 15 pounds in weight; the stomach was dilated until its lower margin was 3 inches below the navel; splashing was noted, and rigidity and tenderness existed to the right of the navel. The diagnosis of pyloric ulcer was confirmed by the withdrawal of three pints of retained contents after an Ewald test meal, and by the high hydrochloric acidity reported by my assistant, Dr. Love. History, physical examination and laboratory report all pointed to ulcer, yet the glands about the ulcer found at the pylorus were later reported by Dr. W. H. Bergtold to present an exquisite picture of adenocarcinoma. The great thickening about the ulcer had already led Dr. Leonard Freeman and me to the conclusion that only very extensive resection of the stomach offered any hope, and he therefore had resected more than half of the lower end of the organ and removed all of the enlarged glands. This patient is now gaining a pound a day.

To those who advocate medical treatment in pyloric ulcer I commend a careful consideration of this case, for I fully believe that any but immediate surgical treatment would have been criminal. I could mention several more or less similar instances in which the persisting ulcer apparently kept up the high acidity long after cancer had developed. We must not exclude cancer because of laboratory reports pointing toward ulcer if we are to do justice to these patients.

Fortunately the evidence on which the decision as to operation in gastric diseases is based is of such a character that we need not hesitate to act on it. In these cases I have found ulcer when I suspected cancer, and cancer when I suspected ulcer to be present; pyloric obstruction from other cause than either ulcer or cancer; gall-bladder disease when duodenal ulcer was suspected and many other conditions more or less different from what I had believed to exist, but I have yet to see the abdomen opened in a case with such a general symptomatology as I have indicated above without finding a surgical condition demanding relief, or else so far advanced as to be beyond help. We do not operate in these cases for ulcer or for cancer, but for some condition, whatever it may be, which we believe to be beyond medical help. The indications which lead the trained clinician to explore the abdomen do not often deceive him, for they fortunately are not present in neurotic, hysterical, tabetic and other patients who have made so much trouble in the past as to gastric diagnosis.

In deciding on the advisability of medical or surgical treatment in any given case of peptic ulcer which has attained a sufficient degree of severity to lead to the consideration of the latter method, we may state the advantages of medical treatment about as follows:

1. Avoidance of immediate operative and anesthetic dangers.
2. Avoidance of possible vicious circle, recurrence of jejunal ulcer, ventral hernia, post-operative adhesions, etc.

Against these advantages we should set the following dangers:

1. Likelihood of failure of medical treatment.
2. At least an even chance that the patient will relapse if temporarily cured.
3. Dangers of development of pyloric stenosis through presence of an active ulcer at that point, or spasm caused by its irritation, or cicatricial stenosis following its healing.
4. Danger of hemorrhage or acute perforation.
5. Danger of the development of cancer on the base of the ulcer (68 per cent. of the pylori excised by the Mayos for cancer showed origin in an ulcer, while 71 per cent. of those excised under the belief that they were cases of ulcer showed cancerous changes beginning. Wilson). Nearly 10 per cent. of our patients operated on showed cancer.
6. Danger of adhesions, which cripple the action of the stomach, obstruct the gall-passages, produce serious pain and often require late operation.
7. Dangers from a troop of late complications of slowly developing perforation, amongst which I have encountered peritonitis, subphrenic abscess, empyema, pyopneumothorax, pneumonia, perforation through the lung, septic pericarditis, mediastinitis, pancreatitis, suppurative processes about the liver and gall-ducts and general sepsis. Unfortunately many cases are reported under such headings without a recognition of the origin of the process in a peptic ulcer.
8. The development of such a condition of anemia and malnutrition from the crippling of the digestive apparatus as to lead to neurasthenia, hysteria, and various functional nervous diseases, or to pave the way for an easy and often fatal infection by the tubercle bacillus, pneumococcus, influenza bacillus, etc.

In my opinion the medical man does not do justice to his patient in such cases as we are considering if he does not present to him clearly the grave dangers of delay if prompt improvement does not follow medical treatment. The latter should be given a fair trial for several weeks, but if practical restoration to permanent health be not obtained, operation should be most carefully considered. Fortunately, the truth of Billroth's saying of thirty years ago that "internal medicine must become more surgical," is gradually receiving recognition.

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REPORT ON SIXTEEN SYPHILITIC PATIENTS TREATED WITH EHRLICH'S SALVARSAN (606)

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In September Dr. Simon Flexner of the Rockefeller Institute sent us a supply of Ehrlich's salvarsan (606), to be used for experimental purposes. The cases that we have selected for treatment with this remedy belong to unusual types and to those rebellious to the usual methods of treatment. The routine followed in every instance included a preliminary examination of the eyes, the nervous system, and a complete physical examination by competent specialists. Complete urinalyses, differential and leukocyte counts, and the Wassermann reaction were made before and after each injection. In a majority of the cases the injections were made according to Wechselmann's method. The Junkermann method was used in the later cases, however, following instructions from Dr. Flexner. A few of the patients treated by injections according to Wechselmann's technic required a small dose of morphin to relieve the pain. In all in whom the Junkermann method was used the injection was preceded by hypodermic of 1/4 grain of morphin, and in every case a second dose of morphin was necessary to relieve the severe pain, which usually lasted from ten to twelve hours. Those injected after the Wechselmann method suffered only a moderate amount of pain and in only one case was it severe and lasting.

CASE REPORTS

CASE 1.—The patient, M. Q., a man aged 22, seen at the Skin and Cancer Hospital, was infected with syphilis four years previously. Treatment had been irregular, and followed only when lesions were present. The patient entered the hospital in June, 1910, at which time he had a large tubercular ulcerating syphilid involving the upper two-thirds of the right forearm; another 8 inches in diameter on the leg, and an ulceration of the inner surface of the left nostril, one inch in diameter. The patient was treated with mercuric bichlorid injections daily for ten months; also by local treatment of mercuric bichlorid packs, various salves, and milder dressings. Very little improvement resulted. He was then given injections of a 10 per cent. salicylate of mercury mixture once or twice a week up to saturation, together with iodids, forced feeding, and rest in bed for a month.

Improvement was noted for a time, the lesions showing some tendency to heal, but only temporarily. Oct. 6, 1910, the Wassermann reaction was still positive. The ulceration on the forearm was 2 inches in diameter, the one on the leg was 5 inches, and the one in the nostril was the size of a nickel. The urine was normal; the leukocyte count was 16,000. Oct. 6, 1910, the patient was given 0.6 gm. of salvarsan under left scapula according to Wechselmann's method. Considerable pain followed, lasting about twelve hours. The next day the site of the injection was infiltrated, slightly painful, and presented a tumefaction 4 inches in diameter.

Four days later the ulceration in the nose had healed entirely, and the ones on forearm and leg showed marked improvement. Twelve days later, the forearm was healed and the leg ulcer was only 2 inches in diameter, and healing rapidly. The Wassermann reaction was still positive, but eighteen days after injection it was negative, and all of the lesions had entirely healed, and the patient's condition was wonderfully improved. November 15 he was discharged from the hospital apparently cured. December 7 the patient felt well and had gained 12 pounds. The leukocyte count was 8,000.

CASE 2.—M. L., a girl aged 6, a patient of Dr. Blair, was treated at the St. Louis Children's Hospital. July 27, 1910, an ulcer was noticed on the left side of the soft palate, which increased rapidly in size. Injections of cyanid of mercury were continued for three days in increasing doses. August 15 a small indurated gummatous lesion appeared on the right thigh. In the next few days several small lesions appeared on the extremities. All of them became ulcerated, and increased rapidly in size within a few days. The mercury injections were increased, but the cutaneous lesions grew worse.

September 8 the injections were discontinued and 1/10 grain doses of calomel were given three times a day, with increased doses of potassium iodid. September 30 the pupils became widely dilated, the patient could not see, was very restless, stammered in speech, and cried continuously. She developed tetanic convulsions that night, and morphin was used. October 1 there were muscular twitchings, retraction of the head, rigid spine, unequal pupils, Cheyne-Stokes breathing, weak and irregular pulse. Mercury inunctions were begun and potassium iodid given by enteroclysis. October 3 the symptoms of October 1 had nearly disappeared; October 5 the Wassermann reaction was positive. A thorough physical examination was made preparatory to the administration of Ehrlich's salvarsan, with the following results: Weight 42 pounds; scars over the extremities, some of them rather pinkish in color, showing recent healing. There was swelling and induration of the right cheek, several ulcers on the mucous membranes of the mouth. The child was very weak and pale, and cried continuously. The pulse was weak and rapid; there was a foul, unbearable odor emanating from the mouth; heart and vital organs normal. Examination of the eye by Dr. Charles showed pupils dilated and maximum and absolutely irresponsive to light but child was blind from some central disturbance. The fundus was normal. Neurologic examination by Dr. Bliss showed knee-jerks present, no Babinski of ankle-clonus; organic reflexes normal, cutaneous sensibilities acute. October 6, 0.15 gm. of salvarsan was prepared by the Wechselmann method and injected into the cellular tissue under the left shoulder. The temperature was 99, respiration 26 and pulse 132, some hours before the injection. The leukocyte count was 12,000. The patient was miserable and restless, and morphin was administered during the night. No albumin or casts were found in the urine.

October 7, there was a moderate amount of swelling at the site of injection; no albumin or casts; right cheek more swollen; temperature 100; pulse 152; leukocyte count 18,000.

October 8, patient was very restless, pulse 120; respiration 32; temperature 102; leukocyte count 31,500; casts and albumin; odor from mouth worse.

October 9, there were albumin and casts in urine, leukocyte count, 33,600; extremities cold; scar tissue at site of healed ulcers had sloughed, leaving deep ulcerations; urine and stools involuntary; stimulants administered.

October 10 to 13, great improvement; patient sitting up in bed; some diarrhea; pupils reacted to light; exudate from ulcers; crying and moaning ceased.

October 14, pupils reacted to direct and consensual light; ulcers improving rapidly, both on the skin and in the mouth.

October 16, swelling of right cheek much less; stool semisolid; appetite good; leukocyte count 18,200; albumin and casts.

October 17, patient voluntarily stated that she felt much better; great improvement was evident; much less odor from mouth.

October 27, temperature 98; pulse 90; respiration 22; patient counted fingers with either eye at 20 feet; cutaneous ulcers healed; patient walked about room and was gaining in weight; there was still a free flow of saliva; leukocyte count 10,000; albumin and casts.

November 4, a thorough physical examination was again made; all skin ulcers healed; two small ulcers on mucous membranes of gums not yet healed; heart normal; digestive tract normal; no albumin or casts; leukocyte count 8,200; neurologic examination normal; pupils equal and responded to light and accommodation; vision normal.

November 15, mouth was entirely well, except small ulcers on gum which were healing slowly; no albumin or casts. The patient seemingly well.

Case 3.—I. B., a City Hospital patient, aged 38, was infected with syphilis fifteen years previous to being seen, since which time he has taken treatment at irregular intervals. Since June, 1910, the patient has had tubercular ulcerating syphilis of both sides of the nose; hard palate and septum both perforated; the septum ulceration still showed activity. He was treated with daily injections of mercuric bichlorid, iodids internally, and various local applications until October 6, with very little benefit. Oct. 6, 1910, physical examination showed no abnormalities except nose lesions and purulent discharge from nose and pharynx; urine normal; leukocyte count 17,000; Wassermann reaction positive. Injection was made of salvarsan, 0.6 gm., after the method of Wechselmann, subcutaneously under the left scapula. Three days later the ulcers on the nose showed marked improvement. No temperature or pulse reaction followed and the urine remained normal. Improvement in the ulcers continued rather slowly for four weeks, when they became active again, and in two weeks more were slightly larger than when the injection was given, and involved adjoining scar tissue that had been produced by mercurial injections. Seven weeks later the Wassermann reaction was positive. A second dose of salvarsan, prepared according to method of Junkermann, was injected into each buttock. Urine normal; leukocyte count 11,335. December 2 the ulcerations greatly improved and showed a tendency to heal; leukocyte count 10,925; urine contained no albumin but contained a few granular casts. December 12 the ulcers were healing rapidly; leukocyte count 12,000.

Case 4.—E. G., a City Hospital patient, a man aged 29, was infected with lues in March, 1910, and entered the hospital in June. Examination showed a slight protrusion of bone over the sternum, extremely sensitive to the touch, which was present for two weeks; reflexes normal, except for general hyperesthesia; lymphatic glands in the axillæ, epitrochlear and inguinal regions showed some enlargement. October 6 the Wassermann reaction was positive; urine normal; leukocyte count 14,800. Injection of salvarsan, 0.4 gm., was made subcutaneously under the scapula, after Wechselmann's method.

Five days later the patient's general condition was greatly improved and there was less pain over the sternum; urine normal; leukocyte count 18,200; no temperature or pulse reaction; site of injection somewhat painful for 12 hours; tumefaction present at injection site; Wassermann reaction positive. One month later his physical condition was fine; site of injection still indurated, though not painful, and consisted of a slight elevated discoid mass three inches in diameter. There was a superficial necrosis appearing on the glans penis. The patient had never had a lesion on this area. He had gained 7½ pounds, and was up to normal weight; his general condition was very good. Six weeks later the lesion on the glans had become much deeper, larger and phagedenic in character; urine normal; leukocyte count 14,300.

Seven weeks later the ulceration on the glans was quite deep. A piece excised and prepared according to Levaditi's method shows no *Spirochæta pallida;* Ducrey's bacillus not found. The patient did not feel well and had pain in right humerus; the sternum was slightly painful again; *x*-ray picture showed periosteal thickening of middle of shaft of humerus and some involvement of medullary portion. Eight weeks later the ulcer on the glans was healing; Wassermann reaction positive; urine normal; leukocyte count 13,650.

Case 5.—F., a man aged 45, seen at the Jewish Hospital, referred by Dr. S. I. Schwab, had been infected with syphilis nine years previously, had very pronounced secondaries, and was treated for several months. He was well until five years before the time of examination, when his present trouble began. The patient was well developed and his color and nutrition were good; expression depressed; answered questions intelligently, but slowly; eyes showed diffuse swelling of lids; redness and tenderness over right supraorbital region. Urinary incontinence was present at times; there was vertigo and double vision, and occasionally patient complained of continuous pain and tenderness in muscles, with marked weakness for the previous four years. Both legs had been swollen lately, with tenderness over tibiæ; pain in chest; trunk rigid when walking; frontal headache on right side; all reflexes exaggerated. The spleen was slightly enlarged, and felt one-half to 2 inches below costal margin. On each tibia was an elevated hard mass 4 inches long and 2 inches wide, somewhat reddened and tender. The urine contained few casts. October 10 injection was made of 0.4 gm. of salvarsan after the method of Wechselmann. Four days later there was less pain in chest and tibiæ and the tibial tumors were smaller. Ten days later there was marked improvement; redness and induration of tibiæ nearly gone; no pain in chest; no albumin or casts in urine. Fifteen days later the patient felt fine; there was no pain in chest or over tibial nodules. The skin over tibiæ was loose; there was no pain, but the bone was still enlarged and rough; leukocyte count 9,800. Spinal fluid showed no cellular elements and was clear. The patient was discharged from the hospital on request, apparently well. The Wassermann reaction was positive.

Case 6.—K. M., aged 25, a patient at the Skin and Cancer Hospital, gave no history of syphilis, but stated that her present lesion began on the right side of the nose as a small red papule four years previously. In July, 1910, the lesion consisted of a deep ulceration which had destroyed the lower right half of the nose and adjoining cheek for a distance of 1 inch, and almost the entire upper lip. The remaining septum was ulcerated and the superior maxillary bone necrosed, exposing the upper incisors and right canine in their entirety. The ulceration was granulomatous and there was a considerable discharge of pus.

Physical examination revealed no abnormalities; urine was normal; leukocyte count 8,000; Wassermann reaction positive. The patient had been treated weekly with intramuscular injections of 10 per cent. salicylate of mercury with some improvement.

October 25, injection was made subcutaneously of 0.6 gm. of salvarsan under the left scapula, after the method of Wechselmann. The pain lasted two hours; leukocyte count was 12,000 twenty-four hours later. Six days later the patient felt fine and the lesion looked much better; discharge less; healthy granulations in ulceration; leukocyte count 7,500. Four weeks later the ulceration of the nasal membrane had healed, but the edges of the skin of the nose showed pearly epithelial proliferation. Five weeks later, sections excised from the edge showed the lesion to be an epithelioma. The teeth became much more firmly set in the alveolar processes; necrosed bone exposed; the nasal ulceration was healed but an epithelioma had developed on a syphilitic ulceration and *x*-ray treatment of the epithelioma was begun; leukocyte count 8,665.

CASE 7.—A. D., a woman aged 52, a patient of Dr. Grindon, had had good health until five years previously. Then she began to have nocturnal headaches, continuing for three years with great loss of weight. Lesions on trunk and extremities appeared in August, 1909, which left scars characteristic of syphilis. The patient had active lesions on her face which appeared in January, 1910, and which extended and continued to appear as tubercular ulcerations with crusting, rupial lesions over the entire face. The lids were much swollen, closing one eye completely; puffy and everted; nose and chin were infiltrated and cheeks present a mass of tubercular syphilis. On removing the crusts the underlying surface was of deep raw-ham tint, superficially ulcerated at many points. Pharyngitis and characteristic congestion of the anterior pillars were present. The patient had been under treatment at irregular intervals. October 30, the Wassermann reaction was positive; urinary examination negative; heart normal. November 3, leukocyte count 12,500; 0.5 gm. of salvarsan was injected under the scapula by Dr. Engman after method of Wechselmann. November 4, leukocyte count was 13,200; November 5, it was 12,000; four days later it was 12,000; Wassermann reaction positive; marked improvement of lesions. The infiltration had practically disappeared; outline of eyelids and lips was normal; discoloration as deep as ever. Two weeks later the patient was transferred to out-clinic. The discoloration was much less; no other remaining evidence of disease except scars on forehead and nose. Eighteen days later the Wassermann reaction was positive; discoloration fading, semifluid mass at site of injection slowly disappearing; no pain.

CASE 8.—G. McD., a man aged 24, a patient at the Skin and Cancer Hospital, applied for treatment in 1909 for scaly lesions on nose, eyebrows, elbow, neck and shoulders and was treated for two months with intramuscular injections of mercuric bichlorid after which most of the lesions disappeared; stopped treatment and a relapse of the lesions occurred within a short time. He stated that his treatment had been irregular, because a cessation of treatment had always been followed by an immediate relapse. Nov. 6, 1910, he entered the hospital, at which time all of the former erythematous, papulo-tubercular and scaly lesions were again active. The lesion on the right elbow was ulcerated and there were small ulcerations of the nasal septum. The patient's physical condition was otherwise normal; urine normal; leukocyte count 13,000; Wassermann reaction positive. The patient was given 0.5 gm. of salvarsan after the method of Wechselmann. In preparing the mixture the salvarsan was dissolved in 0.1 per cent. sodium hydroxid solution instead of 20 per cent. In neutralizing, a large amount of sodium hydroxid was necessary, so that there were 30 c.c. of the mixture. This was injected subcutaneously under each scapula, November 8, and was followed by considerable pain for several hours at the site of the injection. Morphin gave relief. There was no pain twenty-four hours later; sites of injection were elevated and indurated; lesions paler. Leukocyte count was 17,650; urine normal. Eight days later sites of injection were infiltrated, but not painful; lesions on face nearly gone; patient said he felt better than he had for several years. Fifteen days later most of the lesions had entirely disappeared, and the patient had gained 6 pounds. Three weeks later all lesions were entirely well except the ulcer on the elbow, which had healed, and the only remnant of lesion was an erythematous, thin scar. The improvement was striking; Wassermann reaction positive; urine normal. Four weeks later the patient was apparently cured. The leukocyte count was 8,200 and the Wassermann reaction positive.

CASE 9.—Baby P., a bottle-fed private patient, referred by Dr. Doyle, was first observed Oct. 3, 1910, when she was 11 weeks old. The entire body was covered with an erythematous, scaly, macular eruption. The neck, trunk, and especially the genito-crural regions, were involved in confluent patches of the so-called luetic eczema. Both ears discharged pus, showing middle-ear involvement. The mother stated that the eruption had appeared two weeks after birth. The ear affection appeared a week before observation. The child's face had the characteristic, wrinkled, "old-man" appearance; she had "snuffles," and presented a typical congenital secondary syphilis. The Wassermann reaction, however, was negative. In view of the clinical diagnosis, inunctions were prescribed, and followed by immediate improvement in the general condition; the ears became well and the eruption disappeared rapidly. The inunctions were too irritating after a week, and powders containing one-half grain of mercury with chalk were given three times a day. The improvement was rapid, and the eruption disappeared without local treatment.

November 18 it was decided to give the patient salvarsan. At this time there were no skin symptoms of lues. The injection was prepared after the Wechselmann method, and 0.1 gm. was injected subcutaneously under the left scapula. Two days later there was a large elevated tumor of infiltration as large as a guinea-egg. The general condition remained good, except that the tumor from the injection was large and red at times, raising and receding. Twelve days later the tumor was as large as ever and the baby was very fretful. The temperature varied from 100 to 102 F. The tumor showed some infiltration, though there was no central softening. The luetic lesions showed no signs of recurrence.

On December 1 the nodule showed fluctuation and was incised. A small amount of fluid blood and pus was discharged.

December 6 the site of the injection was an elevated, indurated infiltration, 2 inches long, 1 inch wide and three-fourths of an inch high. The edges of the incision wound showed the mass to be organized, hard, and with no tendency to heal. The mother stated that there was constant constipation, relieved only by enemas, and that the general condition was not very good. Sleep was irregular, and at times considerable perspiration appeared over the forehead and scalp. Crying was paroxysmal. Nourishment was taken from the bottle at regular times. There was no indigestion.

December 12 there was marked improvement in the general condition. The site of the injection was still open; the discharge was serous.

CASE 10.—A. J., a private patient, aged 2 months, referred by Dr. Henckler, was first examined Nov. 13, 1910. The baby was covered with an universal, typical, macular eruption of syphilis, was very much emaciated and presented the characteristic "old-man" appearance, with "snuffles." The baby was born with the eruption on the hands, and moist papules around the anus. The Wassermann reaction was positive only to moderate degree. The baby was practically in a dying condition when first examined. Mercury with chalk was given three times a day for five days and some improvement was noted. November 18 it was decided to give an injection of salvarsan. Accordingly, 1 c.c. of a 6 c.c. mixture of 0.4 gm. prepared after Wechselmann's method, was injected subcutaneously under the left scapula. The baby was so emaciated that there was no subcutaneous tissue at the site of injection. It was first decided to give the treatment to the mother, but the child was in such a bad condition that it was deemed advisable to treat him directly to save time. The patient died twenty-four hours after the injection and a necropsy was not obtainable.

Case 11.—W. McG., a man, aged 25, referred by Dr. Urban, was infected with syphilis, April 1, 1909, and put on treatment within two weeks. Three weeks later the secondaries appeared; three weeks after this, destructive tubercular ulcerations began to appear over his face and body, showing a rapid and malignant lues.

The patient then went to Hot Springs, Ark., where the lesions all healed under inunctions, after a seven weeks' course. The tubercular ulcerations reappeared in a short time, and when he was first observed at the City Hospital in February, 1910, most of his body was covered with large and small papulo-tubercular lesions and ulcerations. A course of injections of bichlorid cleared up all the lesions; but two months prior to admission they began to appear again at the old sites.

November 28 he had two large lesions 4 inches in diameter on the left arm, another on left thigh posteriorly, and a few smaller ones on the chest and back. The middle turbinate on the left side had sloughed away. He was pale and rather weak. The urine was normal. Physical examination showed no visceral lesions; leukocyte count 11,350; Wassermann reaction positive. An injection of 0.5 gm. of salvarsan, prepared after the method of Junkermann, was given in the buttocks, preceded fifteen minutes by an injection of ¼ gr. of morphin. The pain was immediate and very severe. A second injection of ¼ gr. was given and morphin was again necessary one hour later. Twelve hours later his temperature had risen from normal to 102 F., the pain had disappeared and he was comfortable. He stated that all of the active lesions had a peculiar tingling, burning sensation, some of them being somewhat painful.

November 29 all of the active lesions, which had only shown superficial ulceration, with much crusting, were now red, deeply ulcerated, and there was considerable reactionary inflammation. Four days later all of the active lesions, except the one on the chest, which was much paler and less infiltrated, had sloughed, with a large amount of débris and pus discharge. He gained 5 pounds in weight in four days. Six days later the leukocyte count was 15,850; urine normal. The lesions were all healthy-looking granulating surfaces, with little or no infiltration. Daily improvement was rapid and marked. The urine was normal. Nine days later the surfaces of ulceration on the arm were quite red and apparently granulating. Close inspection showed the surface to be covered with a very thin film of epithelium as though the granulating surface had been painted with a weak solution of silver nitrate. Within twenty-four hours the thin epithelium covered the entire former ulcer, which was 3 inches in diameter, apparently not growing from the periphery, as is usual in the healing of this variety of ulceration. The patient on his discharge had gained 7 pounds in ten days.

Case 12.—A man, aged 31, a private patient, had been infected with syphilis seven years previously. Eighteen months before examination squamous syphilids appeared on the thumbs; six weeks before examination typical papular, scaly syphilids developed on his nose and chin. Scaly, squamous lesions were still present on his thumbs. Physical examination revealed no abnormalities; urine was normal; Wassermann reaction positive; leukocyte count 9,900. November 17 an injection of 0.5 gm. of salvarsan was given after the method of Junkermann. The pain was very severe for twelve hours. Ten days later the lesions were nearly all healed. The Wassermann reaction was positive.

Case 13.—S., aged 40, was referred by Dr. Unterberg with a diagnosis of tabes dorsalis. Examination revealed the following: first nerve normal; third, fourth and sixth unequal; pupils reacted slightly, if at all, to direct light, consensually or to accommodation; ocular excursions normal; fifth nerve, bilateral hyperesthesia over the nose and forehead; eighth nerve normal; seventh, facial innervation equal on both sides; sense of taste dull over entire tongue; tongue deviated to right on protrusion; other cranial nerves normal. Spinal nerves, cervical normal; dorsals, area of hyperesthesia on left side between third and sixth ribs, and over the abdomen in a belt extending from the lower margin of seventh rib to 2 inches below umbilicus; abdominal and cremasteric reflexes not obtainable; sensation of right leg good; left leg markedly delayed—one to two seconds; knee-jerks and Achilles reflex absent; no Oppenheim, Gordon or Babinski; movements incoordinate; Romberg sign present; Wassermann reaction positive; urine normal; leukocyte count 8,000. An injection was given of 0.5 gm. of salvarsan, after the method of Wechselmann. Five days later the patient suffered very little pain; general condition somewhat improved. There was no change in the tabetic symptoms. Two weeks later there was no improvement.

Case 14.—W. S., aged 19, seen at Alexian Brothers' Hospital, was admitted to the hospital with a chancre on the prepuce, generally distributed maculopapular syphilid on face and body, intense throat symptoms, with great swelling of glands of neck and lymphadenitis in both inguinal regions. The patient was placed on inunctions daily for two weeks and the symptoms were slowly improving. Nov. 17, 1910, the throat symptoms, lymph-nodes and papules were still marked. At 4 p. m. the patient was given 0.4 gm. of salvarsan, after the method of Wechselmann. There was no pain for two weeks, after which the pain became very severe and the area at the point of injection very red. The following day pain continued, the face was flushed, and the area of injection had become very hot and painful to the touch. The pupils were dilated; patient had a diarrhea and temperature reached 100 F. The urine voided was in excess, turbid in character, and contained a large amount of precipitate of earthy phosphates. On the third day red blood-cells were present in the urine; the pain had subsided; the patient stated that he felt better than he had for two months; his expression was alert, skin perfectly clear; the entire eruption had disappeared over night. On the sixth day the Wassermann test was negative; throat symptoms had subsided; enlargement of glands was disappearing, the patient felt well and was discharged.

Case 15.—G. R., aged 28, was referred by Dr. Lutz with a diagnosis of taboparesis. He had acquired syphilis seven years previously; no secondaries followed, and he had no internal treatment. Five months before he was seen by us he developed lightning pains in the legs, perineum, penis and testicles. Headaches were very severe during the last six weeks. The pupils were immobile to light and accommodation. Injection was made of 0.5 gm. of salvarsan on November 17, after the method of Junkermann. Examination showed Argyll-Robertson pupils, exaggerated knee-jerks, more marked on the right side, loss of pain-sense below the knee, retention of tactile sense below the knee, anesthetic cuirass 4 inches wide at the nipple-line; gastric and rectal crises and lightning pains; a slur in the speech, and the mental symptoms of incipient paresis. Two weeks later the patient showed no improvement.

Case 16.—Mrs. C., aged 35, patient of Dr. Fischel, was referred with a diagnosis, made by exclusion, of syphilitic ulcers of the stomach. There was a definite history of syphilis, acquired three years before. Physical examination revealed no visceral lesions. Her symptoms were frequent vomiting, at times tinged with blood, and occult blood in the stools. The Wassermann reaction was positive; leukocyte count 9,000; urine normal. Injection was made October 16 of 0.5 gm. of salvarsan under left scapula after the method of Wechselmann. There was great local reaction, and two weeks later the site of the injection sloughed, leaving an ulceration the size of a dollar. Cultures from the lesion were sterile. Vomiting ceased within two weeks, and the blood disappeared from the stools. If the ulcers were syphilitic, they evidently became well in two weeks. The leukocyte count was 7,600 the next day after the injection. The history in this case is not as complete as it should be.

One is not justified, perhaps, in drawing conclusions from the observation of sixteen cases, but the following comments may be made:

The baby, two months old, who died twenty-four hours after receiving the injection was practically dying at the time, and the treatment was not responsible for its death.

Patient 3 (I. B.) was the only one to whom a second dose was administered, the first evidently not being large enough to kill all the spirochetes. He then made rapid improvement. Patients in whom lesions were quite active showed leukocytosis, which became more marked in from twenty-four to forty-eight hours after the injection, gradually returning to normal in from two to four weeks.

Patient 2 (M. L.) developed nephritis, which soon cleared up without special medication.

Patient 14 (W. S.) had blood-cells in his urine, following the injection, but they disappeared in a few days.

The two patients with nerve syphilis, Nos. 13 and 15, returned for observation later and were undoubtedly worse than they were before the injections.

In Cases 9 and 16, the injections produced sloughing. The slough in Patient 16 healed nicely three weeks later. In Case 9, the incised tumor discharged sterile serum, but was very slow in healing.

The pulse and temperature reactions were slight, with but one or two exceptions. None of the patients showed symptoms of arsenical poisoning.

In those showing marked improvement, the gain in weight in some instances was striking.

To be perfectly fair, except in Case 2 (M. L.), we have seen equally as rapid disappearance of skin manifestations from the use of injections of mercury; but several of the cases herein reported seemed to be rebellious to mercury. Reasoning from analogy and our knowledge of chemical therapy, a certain per cent. of cases will also, no doubt, prove rebellious to Ehrlich's remedy; but no matter how many may prove rebellious, it has a remarkable effect on the cutaneous manifestations of syphilis.

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THE DIAGNOSIS OF OPERABILITY OF CARCINOMA OF THE UTERINE CERVIX*

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Operability is a condition dependent on the operator as much as on the patient. This obtains as much in operations for fibroids as in operations for carcinoma. What to one operator is an inoperable fibroid, presents to the other a moderately difficult task. In carcinoma the personal factor enters even more into the determination of operability. I know of surgeons who refuse to operate in any case of carcinoma of the cervix; others who will do only operations which have a low primary mortality; others again whom no amount of primary mortality can deter from the most desperate attempts. Each one of them has his own conception of operability, which, expressed in figures, would vary between zero and 80 per cent. of all cases.

Operability to one surgeon appears to be the condition in which it is possible to take out the carcinomatous uterus. Such a surgeon would probably have a percentage of operability approaching 80 per cent. Other surgeons have no faith in surgical operations for carcinoma, either because they have not operated sufficiently extensively and have had a shocking number of recurrences, or have done poor surgery and have had a mortality following their operations which precluded further efforts on their part. This class sometimes hides behind the oft-repeated statement that it is no use to operate on carcinoma anyhow, because in those cases that were really carcinoma recurrence always follows and those in which recurrence does not take place were not really carcinoma, microscopic diagnosis nothwithstanding.

To find some foundation on which to base a scientific discussion, it is necessary to recall a few generally accepted results of clinical experience and pathologic investigation.

First, the diagnosis of carcinoma must be based on microscopic evidence. This evidence, I am happy to say, is now so generally accepted that the statements concerning microscopic diagnosis which a few years ago resounded from prominent rostrums need no further refutation. It is sufficient to repeat that it is not the microscope or the stain or the method of imbedding or cutting which makes the diagnosis, but the man who looks through the microscope.

Second, in cases which have been diagnosed as carcinoma by reliable microscopic investigation the patients have been cured by operation in numerous instances and have remained cured for many years after the operation. Therefore it is certain that cases of carcinoma can be cured by operation.

INDICATIONS AND CONTRA-INDICATIONS FOR OPERATION

The cases which give the best chances of a complete cure by operation are the cases in which the carcinoma is small and limited in extent. These cases give the best chances because the operations can be done in freely movable tissues and without sepsis being present in the field of operation; therefore with low primary mortality. Furthermore, the chances of removing all of the carcinoma are good, therefore the remote results are satisfactory.

The cases which give the most unfavorable results are those in which the carcinoma has involved the tissues extensively, and in which infection of the disintegrating tissue has taken place. These cases are bad risks for both primary mortality and remote results.

It is evident that every carcinoma has a stage when it is in its beginning and when its operative cure would be, safe and lasting. It is regrettable that only a pitifully small percentage of such cases reach the operator. Somebody is to blame in every case in which this stage has been allowed to pass unrecognized and unoperated. If we are charitable, we are willing to assume that in most cases the patient herself is to blame, who through ignorance, superstition, fanaticism or fear commits suicide by the carcinoma route. If we are less charitable and more inclined to criticism, we remember the many cases in which the physician is to blame who fails to make the diagnosis.

Once this ideal stage of carcinoma, if I may so call it, is passed, the carcinoma patient reaches a condition in which many factors enter into the determination of her chances and in which conscientious and able surgeons may vary widely in their individual opinions.

This much we may hope to maintain, that every operation for the removal of carcinoma is undertaken with the hope and intention of removing all of the carcinoma, and that any operation which fails to remove all of the carcinoma is a failure, whether the patient survives *it* or not. If the patient survives an operation for carcinoma which fails to remove all of the carcinoma, her condition is not essentially different from that of the woman whose carcinomatous uterus has not been removed, but only curetted and cauterized. And the chances of the two are nearly equal as far as length of life after the operation is concerned (an average of eighteen months with wide, but exceptional, variations above and below that average).

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

There is no question that with modern methods of hemostasis it is possible to remove almost any uterus affected with carcinoma, but it is also beyond question that this kind of operation is a perfectly useless sort of tight-rope performance; and, let it be understood clearly, it is the patient who must walk the rope, not the surgeon.

When it appears impossible to eradicate the disease completely by operation, the patient is better off with a simple palliative operative treatment. Palliative slight operations achieve nothing but a mitigation of the living death, but they do not render surgery abhorrent to the next patient who may be a good risk.

From what we know about the lawless ways of carcinoma of the cervix, it becomes clear that the more of the tissue surrounding the original seat of the carcinoma is removed the greater the chances of removing all of the carcinoma and of accomplishing a lasting cure. Unfortunately, the primary mortality increases in direct ratio with the extent of the operation. Furthermore, the cervix is in a particularly unfavorable location for wide excision of the surrounding tissues. In general we desire to keep at least an inch from the carcinoma in our operations. Who can do that in the structure attached to the cervix in front, the bladder? And who has the courage to advise complete removal of the posterior wall of the bladder with resection and reimplantation of the ureters in every operation for carcinoma of the uterus? Furthermore, the extension of the carcinoma of the cervix along the lymphatics is particularly treacherous, the paths leading underneath the apparently intact vagina, sometimes to considerable distances, and through apparently intact broad ligaments to lymphatic glands inside and outside the pelvis.

With all these obstacles which threaten our results, we must keep in mind that the farther away from the primary carcinoma we keep with our excision, and the farther away from the primary carcinoma we head off the outposts of the carcinoma the greater the certainty of a lasting result.

OPERATION

The operation which I have had the honor to propose to the profession in 1895, and which has since been modified and moderated and variously called the extensive Freund operation or the Wertheim operation, was the result of these and similar considerations. The intention was to keep as far away from the primary seat of the carcinoma as possible, to remove not only the primary carcinoma, but all of the surrounding tissues to an extent which would *include the most probable first* metastatic outposts, and at the same time to evolve a technic which would give a fair chance to the patient to survive the necessarily extensive operation. My first imitators had a mortality which soon made them more conservative, and at the present time, as far as I can ascertain, I am still the most radical operator, with the result that all of the patients who have left the hospital after a complete operation are to-day alive and free from pelvic carcinoma.

SUMMARY OF RESULTS

I have treated between 1897 and the end of 1909 33 patients with carcinoma of the cervix. Eleven of these were too far advanced for anything except palliative treatment. Of the 22 operated on 8 died from the operation, 2 from *hemorrhage*, 2 from the anesthetic, 4 from septic conditions. Of the 14 surviving the operation, 2 were operated on incompletely, the operation being interrupted when it was found impossible to complete it. Of the 12 with completed operation, one on *examination of the specimen proved to be carcinoma* just above the cervix and therefore belongs among the carcinomas of the body. One patient whom I reported to the Boston meeting of the American Medical Association as having had a recurrence in the external inguinal *glands under the skin nine years after the first operation*, I lost track of one year after the second operation. She was therefore alive ten years after the first operation. She belongs to the submerged stratum of society and I have little hope of finding her again. The 10 known survivors were operated on as follows: 1908, one; 1899, one; 1900, one; 1901, two; 1903, one; 1906, one; 1908, one; 1909, two. The number is so small that it is hardly worth while to figure out percentages. Suffice it to say that out of 17 who came to treatment from thirteen years to five years ago, 14 have been operated on by the radical operation, 1 has been lost sight of, 1 was carcinoma of the body, 6 died and 6 are alive and well to-day; 1 twelve, 1 eleven, 1 ten, 2 nine, 1 seven years.

After this operative experience and the pathologic study of the specimens removed, the principles which I announced in 1895 remain unchanged. But I must repeat that the value of this operation lies rather in the possibility of more numerous, complete and lasting cures of favorable cases than in the possibility of operating on *advanced cases which are not amenable to treatment by* the older methods.

Carrying out this operation I found, as was to be expected, that certain cases are inoperable which formerly would have been considered operable. On the other hand, certain classes of cases were demonstrated as amenable to operation which formerly were regarded as hopeless, as will appear in the further discussion.

Coming to the more technical points of this discussion, it may be said that there is no case which is inoperable for the palliative methods. Even those patients who cannot safely take an anesthetic can be submitted to this palliative treatment, as it can be carried out without an anesthetic or with a little morphin, in practically all cases.

The radical operation as I practice it, is a severe and dangerous operation in itself, even where the conditions are reasonably favorable as far as the extent of disease is concerned. Patients who are very anemic in consequence of prolonged and severe hemorrhages stand the anesthetic poorly and are poor risks even with scopola*min-morphin* or spinal anesthesia. If preparatory treatment of short duration directed towards raising the hemoglobin percentage and the red blood count is not rapidly successful, the danger is considerable. Short stout patients of stocky frame are hard to operate on. Even tall patients, when very obese, offer great obstacles and the operation is liable to be extremely difficult and long, and therefore risky. Patients with nephritis, chronic bronchitis and emphysema and valvular lesions of the heart are in special danger. Preparatory treatment should be tried in these cases for a short time. If it is not rapidly successful the patient should be informed of the additional risk she is running. I have repeatedly operated on patients with well-compensated heart-lesions without bad results.

The bacteriology of the carcinomatous surface is of great importance. Practically all carcinomas contain microorganisms of varying degrees of virulence. The danger of infecting the pelvic connective tissue and the peritoneum is always present in spite of various technical precautions which have been advised. It is safe to say that it is impossible to render an infected carcinomatous ulcer aseptic, whatever the preparatory treatment may be. The carcinomatous area may be opened into in the course of the operation, if the uterus tears, and carcinomas of the cervical canal are particularly treacherous in this respect. In order to lower the primary mortality it has been advised to give preparatory treatment to the septic carcinomatous areas for weeks, if necessary, before the main operation. But it is not safe to let a carcinoma go on for weeks, because in the course of these weeks it may become hopelessly inoperable, even if a little cleaner on the surface. In addition it must be stated that preliminary curetting and cauterizing in itself is not without danger. It is often followed by rise of temperature, sometimes even by exudates, which may render the radical operation impossible. Preparation of the carcinoma the day before the main operation or immediately preceding the main operation seems to be the best method. Patients who develop high temperature and septic conditions if prepared one day before the intended main operation, are best left without operation.

DIAGNOSIS OF EXTENT OF INVASION

The extent of the neoplasm is necessarily of prime importance with regard to the operability of the case. It is diagnosed before, during and after the operation, and often the result of the investigation at one of these periods is vastly at variance with that at another period.

Before the operation the methods used in the diagnosis of the operability of the carcinoma are inspection in the speculum, palpation, vaginal, rectal, abdominal and combined, and lastly cystoscopy.

The speculum is mentioned only to be condemned as practically useless. Cystoscopy should theoretically give safe indications, but does so only in a very limited way. If the cystoscope shows that the carcinoma has grown through into the bladder, it has been of value, because it shows the case to be inoperable. But the other conditions found in the bladder, edema, bullous edema and distortion of the bladder, are not reliable. They may be due as much to the infected condition of the carcinoma as to carcinomatous invasion of the bladder itself. Unless the cystoscope shows actual involvement of the bladder mucosa, the case need not be considered inoperable until further investigation.

Vaginal palpation of the carcinoma, especially after as much of the neoplasm as possible has been removed with the curette, shows the involvement of the uterus and surrounding tissues with a reasonable amount of accuracy. Extensive involvement of the vagina especially if extending into the depth, extensive destruction of the cervix, especially if involving the broad ligaments, characterize the case as inoperable. Palpation through the rectum may reveal thickening and rigidity of the ligaments which might make the operation useless. Palpation of the glands in the pelvis through the rectum has been recommended, but I myself have never been able to palpate glands even if I found them enlarged afterward in the course of the operation.

Abdominal palpation might reveal carcinoma of abdominal organs outside the pelvis, thereby forbidding the operation. Palpation of the uterus through the abdomen may reveal a large tumor, but that in itself is not a serious obstacle.

Combined palpation, vaginal and abdominal, or vaginal, rectal and abdominal, will demonstrate the amount of mobility of the uterus and the condition of the ligaments. Free mobility of the uterus, which was of prime importance in the days of the old vaginal hysterectomy, is of much less importance for the method I advise, unless the immobility is due to carcinomatous involvement. If the immobility is due to carcinomatous fixation, the operation is not theoretically impossible, but it is practically useless as far as remote results are concerned. It is one of the important advances achieved by the performance of the radical abdominal operation that we know now that a uterus which appears immovable on combined palpation, may be perfectly operable, with good remote result, because in a number of cases the fixation is not due to carcinoma but to chronic inflammatory thickening of the ligaments.

CONDITIONS REVEALED AT OPERATION

In the course of the operation the operability may appear entirely different from that diagnosed before operation. Small metastatic tumors in the liver or carcinomatous adhesions to the intestines or omentum may be found immediately on opening the abdominal cavity, and classify the case at once as hopeless, when no amount of abdominal or combined palpation preceding the operation had revealed these conditions.

Therefore it is an important rule that every radical abdominal operation for carcinoma of the cervix should be begun as an exploratory operation. A rapid review of the liver, the abdominal glands along the aorta and its branches and of the bladder, must precede the actual operating in the pelvis. Conditions may be revealed here which forbid all further interference. Metastatic tumors of the liver make the case absolutely hopeless, as do also large carcinoma masses in the broad ligament, especially if they have perforated the ligaments and have made metastatic nodules on the peritoneum in the cul-de-sac or anywhere else. The condition of the glands is very difficult to interpret correctly. Large glands may or may not be cancerous and small glands are not necessarily free from cancer. Firm attachment of the glands to the veins must be considered very suspicious. This finding may occur in cases in which the carcinoma seemed confined to a small area in the uterus. These are the cases which appear perfectly operable on careful examination before the operation and prove incurable in the course of the operation. Toughness of the broad ligaments, if not combined with actual tumor formation, does not necessarily indicate carcinomatous involvement.

In the course of the operation conditions may be encountered which show the operation to be useless after it is more or less completed. For instance, it may be found, after removing evidently cancerous glands along the common and internal and external iliacs, that cancerous chains of glands extend under Poupart's ligament down into both thighs—a condition which I have seen. Or, in detaching the vagina, about the last step of the operation in the pelvis, it may be found that the pelvic connective tissue is invaded to an unexpected extent, a condition which I have seen. Then we have performed an apparently well-indicated operation and do not discover until its very end that it was all useless.

MICROSCOPIC STUDY OF THE TUMOR AND TISSUES

After the operation follows the extremely important microscopic investigation of the specimen. No amount of operative technic can further our knowledge so much as a carefully conducted pathologic investigation of the specimen with constant comparison of the findings before and during the operation, with those of the post-operative investigation. This post-operative examination uncovers all shortcomings of our diagnosis and of our operative technic, and must be the basis of future improvements. There is no greater satisfaction than to find that the results agree in all three stages, and no greater incentive for further work than to find out where and why they do not agree. Literally thousands of sections of glands and broad ligaments and cervix are required to make sure that we have operated outside the carcinoma, but this work, laborious and heart-breaking as it may be, is a most essential part of our task, on which the rational surgical treatment of carcinoma of the cervix must be based.

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USE OF THE CAUTERY IN TREATMENT OF CARCINOMA OF THE CERVIX*

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Hysterectomy for carcinoma of the cervix has been a more or less unsatisfactory operation, the large percentage of early recurrences being an especially distressing feature of its results. The treatment of operable cases has now progressed to a well-nigh perfect degree of technic in competent hands. The radical abdominal operation, like the radical breast operation, when properly done, leaves nothing more that can be done in an operative way.

The one remaining thing to accomplish is to educate both the laity and physician to such a point that the patient will present herself early to her physician, and that the physician will make an early diagnosis, which being made, the patient will be forthwith sent for operation, rather than be kept under the physician's remunerative local treatments till the golden opportunity has passed. When such a condition has been obtained the statistics of radical pelvic extirpation will show different results than those of the past.

The experience of all operators is that a very large percentage of cervical carcinoma cases are much more advanced than the examination at first seems to show.

Bovée has said that fully 80 per cent. of all cases of carcinoma of the cervix are inoperable. The squamous-celled carcinoma of the portio vaginalis, as shown by Montgomery, is less malignant than the adenocarcinoma originating in the glands of the cervical mucous membrane. The latter much earlier involve the lymphatics than do the former.

Emil Ries, Wertheim, Clark, Sampson, Bovée and others have shown years ago that lymphatic involvement high up may exist when no suspicion or evidence of it existed on examination. Unfortunately, we shall always have a much larger percentage of inoperable cases with us than we would wish for. It seems to be a necessary step to decide definitely in our minds between what constitutes an operable and an inoperable case. The statistics of the past would have been better had there been a well-defined line of demarcation between these two classes.

An operable case can be defined as one in which the disease is confined to uterine tissue alone, and an inoperable case, one in which the growth has involved surrounding tissues. It is often impossible to determine these questions until the patient is anesthetized. Examination through the rectum, high up, is necessary, as well as the vaginal examination. The rectal examination often tells more than the vaginal. If pain has been, to any extent, a symptom, it is probable that the extension is outside, for carcinoma of uterine tissue produces no pain nor tenderness.

Operations which do not remove all the diseased tissues only hasten the process of growth, as witnessed by the reported rapid recurrences in so large a percentage of cases. Many of these patients would live longer if they were never operated on. Another fruitful source of recurrence has probably been infection of raw surfaces at time of operation, as evidenced in the prompt recurrence in the scar in the vaginal vault. This scar would not be the first point of return were it not for this fact.

The late Dr. John Byrne of New York nearly twenty years ago demonstrated what he could do with the actual cautery in inoperable cases of carcinoma of the cervix. He reported a series of successful operations by the method of which he was the author, which to this day excels in results any that have been done by any other operator. He wrote of his method and reported his results from time to time till his death, but for some unknown reason his methods were never persistently followed by any of the army of operators who knew what he was doing. Dr. Byrne, in a discussion of one of Dr. Boldt's papers on carcinoma, made this statement relative to the apathy of the profession as to the cautery operation:

> That the great bulk of our profession have practically ignored one of the least dangerous, but most successful of all the means yet devised for the relief and often permanent cure of uterine cancer is something *not* to be proud of in this age of progress.

His report made in 1896 as president of the American Gynecological Society embraced two series of cases, one consisting of 63 patients operated on for cancer of the portio vaginalis, of whom 23 patients had strayed away, leaving only 40 to account for. Of these, "exemptions from relapse were obtained ranging from two to twenty-two years, averaging nine years for each."

In the second series of 81 cases, out of which 31 patients had strayed, he reported exemption from relapse as follows: 10 for over two years; 11 for over three years; 6 over four years; 8 over five years; 6 over seven; 2 over eleven; 1 over thirteen and 1 over seventeen years. He further reported one of his stray patients, a very unpromising one when operated on in 1875, discovered alive and well twenty-one years afterward.

Undoubtedly a goodly proportion of the patients subjected to hysterectomy in the past would have been as well, and probably better off without operation, and would have lived longer. It is manifestly our duty not to operate when the results of such operations are known not to relieve, but probably hasten the death of the patient. But we cannot desert these poor sufferers. And in the cautery operation of Dr. Byrne we have the means of doing for them that which cannot be done in any other way. All the other makeshifts, the chemical caustics, such as zinc chlorid, pyoktanin, bromin, etc., are useless as compared to the galvanocautery, because they are difficult to control and of doubtful efficacy.

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The galvanocautery can be controlled, and all done while the patient is under the anesthetic. When the cautery is withdrawn we are sure that no further destruction of tissues is going on. With the chemical caustics such is not the case. Besides, the cautery is more penetrating and certain in its results.

The acetone treatment, to which Dr. Gellhorn of St. Louis first called attention by his publication in THE JOURNAL of this Association in 1907, and later in the *American Journal of Obstetrics and Gynecology,* I have never tried. I have been trying out the cautery in this class of cases. Acetone is not to be classed with bromin, zinc chlorid, etc., because it is not a caustic and is followed by no sloughing. It is more of a hardening fluid; but from all reports I doubt that its depth of penetration is equal to that of the cautery. One of the strongest points in favor of the cautery is that scar tissue follows its use, and as scar tissue always is contracting, it to a greater or less extent interferes with the nutrition of the cancer growth and thereby prevents recurrence or inhibits rapid recurrence and growth.

When the carcinomatous growth has progressed to the stage of breaking down with hemorrhage and infection, we have not only the results of the hemorrhage on the general health of the patient, but we also have various grades of toxemia from the infective processes accompanying the sloughing and bleeding cancer tissue. Both the hemorrhages and the infection may be stopped by the thorough use of the cautery, thereby controlling two of the prominent inroads on the health and life of the patient. And if in addition thereto we take into consideration the cessation of foul, fetid discharges, which are disgusting to the patient and all about her, we have added no inconsiderable blessing to her existence. By this means if we do not permanently cure the patient, we are adding to her length of days as well as making her life more happy and tolerable.

Manifestly cauterization of a fungating cervix will not cure the patient if the infection has passed up into the pelvic lymphatics beyond the reach of the cautery. But in a small portion of cases, even far advanced, infection of the lymphatics higher up has not occurred, or else Dr. Byrne could not have had patients alive five to twenty years after cauterization with no evidence of any carcinoma present. Undoubtedly many of his successes were in cases which were seen comparatively early in the disease, and as he treated all patients with cancer of the cervix with the cautery, instead of hysterectomy, his results would naturally give a larger percentage of cures than are obtained by treating the inoperable cases only, by this method. Cases which we consider safely operable are seldom if ever treated in this way, but the radical operation is done probably with as great or better chances of non-recurrence, with a proper technic, to prevent reinfection at time of operation.

The sharp curette is the adjuvant of the cautery in the inoperable class. By it all the soft bleeding mass may be removed, thus excavating down to the basement carcinoma. All of the cylindrical water-cooled speculums which have been devised, to my way of thinking, are hindrances rather than helps to the efficient performance of this operation, because by their thickness they so limit the field of operation and vision that I, at least, cannot do it thoroughly. Burning of the vagina or bladder may be prevented by placing over the blades of speculums and retractors moist gauze jackets made to fit them. By this means a wide field of vision and action is obtained. After curetting away all the soft tissues, there is more or less oozing and sometimes bleeding.

Dr. Boldt, several years ago, suggested, and I think practiced, packing the crater thus made and waiting a day or two before using the cautery. If there is too free bleeding which cannot be readily controlled, this is a good plan to follow, for the effective use of the cautery demands a comparatively dry surface; otherwise the penetration of heat from the cautery tip will not be sufficient. Dr. Byrne used a saturated solution of zinc acetate with 25 per cent. of strong acetic acid to stop oozing and to dry the curetted surfaces before using the cautery. The acetone, from Dr. Gellhorn's report, will also prove to be an ideal application to stop all oozing.

I think that many operators have failed to get results and have given up the attempt to do this operation because they have not used a good and efficient cautery. No Paquelin thermocautery apparatus that I have ever seen can do the work properly. Only the right kind of electrothermocautery will do this work efficiently. Ordinary cautery batteries are of doubtful utility. The ordinary street current used for incandescent electric lighting, controlled by a rheostat, gives the necessary power to heat a platinum dome to any degree desired from dull red to white heat. Before using the dome the operator should determine where he desires the most penetration, where the tissues are thickest and what he wishes to avoid, be it bladder or peritoneal cavity. The peritoneum has been opened by the cautery with no ill results. So long as intestines are not burned, no peritoneal opening could be made under more aseptic precaution. The bladder, rectum and ureters only are to be avoided. The uterine arteries, if not exposed, may be destroyed by the deep cooking process with impunity, for they will, long before the slough comes away, have been effectually sealed. Dr. Byrne suggested that no packing be used in the crater subsequent to the cautery, as in its removal the slough might be forcibly torn away and hemorrhage follow. Natural separation I have never known to produce any bleeding.

The best results may be secured by not placing the heated dome against the tissues, but by holding it near them, thus allowing the heat to make the greatest penetration, roasting them as it were. If the bladder is well held up by a wet gauze-protected retractor it will never be damaged; neither will the penetration of the heat reach the ureters unless it is much overdone.

It is only within the past five or six years that I have been doing this work in a manner which has appealed to me as effectual in this class of cases. Some of the patients have lived two or three years very comfortably; two have been, I believe, absolutely cured, now living, one four and the other five years. One had passed the menopause, and she has a shriveled cicatrix where her uterus was, and is well. The other was not yet past the menopause and had hematometra after the cautery, by occlusion of the uterine canal, for which I did a vaginal hysterectomy. This uterus was investigated thoroughly after removal and not one slide showed any vestige of cancer tissue in it. She is well five years after the last operation. In general, all of these patients have been made more comfortable than were those whom I formerly operated on and have lived longer.

I have done several hysterectomies for those whom I cauterized three or four times previously to the operation. The effect of the cicatricial deposits after the use of the cautery has been to inhibit the growth of the cancer to an extent which warranted me in making the attempt to do a radical abdominal operation later.

I wish, therefore, to suggest the idea of using the cautery as a means of preparing a limited number of these patients for later radical operation. I have further to suggest the use of the cautery freely before doing a radical operation, with the idea in mind that no inconsiderable part of the subsequent recurrences in the scar, as before outlined, are due to fresh infection of the raw surfaces at time of operation.

I believe that free and deep cautery of the cervix before radical operation does more to prevent such recurrences, as no other means has been devised that will not at times fail. This I believe to be a very much more important step in the technic of the radical operation than would at first thought appear.

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THE RESULTS OBTAINED BY THE RADICAL ABDOMINAL OPERATION FOR CARCINOMA OF THE UTERUS *

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The evolution of the modern radical operation for the cure of cancer of the uterus has kept pace not only with the general evolution and progress in surgery but with the modern conceptions of the pathology of cancer as well.

The abdominal radical extirpation of cancer of the uterus may be said to be still in its infancy. Sufficient time has not elapsed in which to draw definite conclusions, but this fact remains, that up to the present time our experiences with operations for cancer in all parts of the body prove that an operation which gives the least number of recurrences must conform to the following general principles, namely, "the complete removal of the diseased organ, and as much of the surrounding tissues as is possible, together with the removal of the regional lymphatic glands which drain the part affected."

There exists at the present time no other disease in gynecology around which so much interest centers, or one regarding whose surgical treatment so little unanimity of opinion exists as is the case in cancer of the uterus.

This review of the literature has been undertaken with the idea of determining, as far as may be possible at the present time, what results, immediate and remote, we may hope to obtain from the radical abdominal operation, inasmuch as this method conforms, more nearly than any other, to our present conception of what an operation for this disease should be.

In making a statistical study of the results obtained with the radical abdominal operation for cancer of the uterus, we are confronted by many difficulties. The scarcity of complete detailed reports of such operations makes an ideal statistical study almost impossible. There exists no systematic or common method of reporting the cases on record, that is, whether the operation was done early or late, or whether the cancer was of the cervix, vaginal portion, or body of the uterus. There are no large series of cases on record which have been observed for five years or more, to corroborate the final results from many operators. Another difficulty which we meet is that not all operations reported as "abdominal operations" or "abdominal hysterectomy for uterine cancer," are really operations by the radical abdominal method. So that in making a statistical study, all reports of cases which do not possess the essential requirements of the modern radical operation must be carefully excluded.

From the standpoint of malignancy, it is now generally recognized that of all the uterine cancers, the least malignant is the adenocarcinoma affecting the body, next the squamous-celled carcinoma of the vaginal portion of the cervix, and that the most malignant is the adenocarcinoma of the cervical canal. It follows that the surgical treatment of each variety will give different results and therefore, it is not exactly proper to consider them all together. In the literature, however, there are only a few instances in which the different types are separated by the operators in reporting their cases of radical abdominal operation. I have found that a separate consideration of the results obtained from the radical abdominal operation in each type of cancer of the uterus is impossible, and therefore have been obliged to consider them altogether.

I have collected from the literature and from personal communication with operators in this country, reports of 2,765 instances of the radical abdominal operation which conform to Winter's formula as to what constitutes this operation. Of these 2,467 have been gathered from the continental literature, and 298 from American surgeons. The 2,467 operations which were reported are as follows:

	Cases.
Radical Wertheim operation	1,052
Radical abdominal method	689
Amman method	5
Radical abdominal operation with cleaning out of pelvis	261
Bumm-Wertheim operation	77
Freund-Wertheim operation	183
Mackenrodt-Amman operation	13
Freund	15
Mackenrodt operation	144
Complete extirpation with parametrium and glands	28
Total	2,467

The reports of the 298 operations gathered from American surgeons were either reported as Wertheim operations, or in a personal communication to me, as "abdominal hysterectomies with a free dissection of the ureters and wide excision of the parametrium, the removal of a portion of the vagina and any enlarged glands present."

The status of the radical abdominal operation in America was illustrated by the replies received from 330 letters of inquiry sent to the leading surgeons and gynecologists of this country regarding the radical abdominal operation for cancer of the uterus. I received 140 replies, only twenty-two of which gave the experience of operators who had done the operation. From the scarcity of the number of recorded cases in the American medical journals, and from the comparatively few reports of cases obtained from personal communication, it is evident that the modern radical abdominal operation for uterine cancer has not received the recognition in this country which it has abroad. I regret that, at this

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* For reasons of space, the article is here abbreviated by the omission of part of the historical portion and all of the bibliography. The complete article appears in the Transactions of the Section and in the author's reprints.

time, I have been unable to obtain late reports from Kelly, Clark, Cullen, and Ries, all of whom have had much experience with this method.

In this statistical study I have given Wertheim's results separately as well as combined with the general results of other operators. This has been done for the reason that one of the objections which has been raised to the more general employment of this method has been that other operators could not obtain results equal to those of Wertheim.

The following is a tabulated list of the cases reviewed.

TABLE 1.—STATISTICS OF THE OPERABILITY AND MORTALITY

CONTINENTAL OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No.	Primary Mortality. Per Cent.
Amman, J. A.[7]	5	..	1	20
DeArcangelis[8]	2	..	1	..
Berutti[9 10]	...	..	..	..
Belloeuf, F., and Sorell[11]	1	..	0	..
Bergesio and Berutti[9 10]	79	..	27	..
Berkeley, C., and Bonney, V.[12 13 14]	18	67	3	16.6
Billhaut, M.[15]	4	..	3	..
Bumm[16 17]	75	90	15	20
Cheatle, Lenthal[18]	1	..	..	..
Dobbert, T.[19]	25	..	3	..
Depage, A., and Mayer, L.[20]	1	..	..	..
Döderlein[21 22 23 24]	209	48.3-68.6	30	14.3
Ernst[25]	3	..	..	..
Ferrier[16]	15	..	3	..
Freund, H. W.[26]	15	..	3	20
von Franque, Otto[27 28 29 30]	166	..	33	20
Faure, J. L.[31 32 33]	12	..	0	..
Franz, K,[34 35 36 37 38]	140	81.35	27	19.28
Fuchs[39]	2	..	0	..
Fueth[40]	1	..	1	..
Jacobs[41 42 43 44 45]	95	..	6	6.3
Blake[45]	15	..	0	..
Jeannel[46]	33	30	11	35
Jessett and Bowerman[47]	1	..	0	..
Jessnitzer and Eugen[48]	14	..	3	..
Jonnesco, T.[49 50]	28	..	9	..
Kleinhans, F.[16 51]	32	..	3	9.4
Korner, V.[52]	7	..	3	..
Kroenig[16 53 54]	47	61.7-87	2	..
Klein, G.[55 56 57 58]	52	40	7	12.8
Kuestner[16 59 60]	20	68.7	4	19.4
Gattrono, S.[61]	18	..	2	..
Lampe, R.[62]	7	..	3	..
Latzko, W.[63]	10	..	0	..
Lockyer, C.[64]	12	70.5	3	..
Legeau[9]	10	..	4	..
Mackenrodt[16 17 65 66 67 68]	144	92	28	19-21
Morisani[9]	14	..	1	..
Muller, P.[55]	7	33.3-89.5	3	42.5
Opitz[69 70]	1	..	0	..
Oberlander[71]	1	..	0	..
Pfannenstiel[16]	10	..	2	20
Prelli, C.[72]	24	..	10	..
Prochownick[73]	16	..	6	..
Polosson, A., and Violet[14 74]	32	12-14-56	6	(18.7)
Poten[76]	2	..	0	..
Poroschin[77]	4	..	1	..
Reinecke, P.[78]	66	40.76	14	21.2
Reynier[9]	18	..	5	..
Ricard[16]	9	..	1	..
Richevin, R.[79]	18	..	6	..
Richelot, G. L.[80]	21	..	8	..
Rouffart[81]	1	..	1	..
Von Rosthorn and Shindler[82 83 84 1 16 85]	117	36.1	16	13.67
Spinelli[86]	5	..	1	..
Sellheim, H.*	13	..	3	..
Sitzenfrey, A.[87]	1	..	0	..
Thring, E.[88]	6	..	0	..
Veit[89]	33	..	11	..
Viannay[83]	7	..	3	40
Wertheim[75 90 103]	487	60†	119	24.50
Walthard[103]	8	..	0	..
Weiss, Th.[104]	1	..	0	..
Zacharias, P.[105]	97	..	21	..
Zweifel[16 106 107]	129	..	17	10.8

† In last 200 cases.

AMERICAN OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No.	Primary Mortality. Per Cent
Peterson, R.*	36	15 or 20	7	19
Reder, F.*	32	40	8	26.2
Jonas, J. E.*	5	50	1	20
Cannady, J. E.*	10	50	2	20
Boldt, H. J.*	5	..	..	0
Rixford, E.*	12	..	3	25
Smith, R. R.*	3	20	1	33⅓
Janvrin, J. E.*	12	10	4	33⅓
Polak, J. O.*	10	..	2	10 or 12
McLaren, A.*	7	..	11	5
Tate, M. A.*	4	15	0	..
Cumston, C. G.*	12	5	0	..
Frank, L.*	25	†	3	3 or 4
Stone, I. S.*	20	25.20	1	5
Ill, E. J.*	2	..	0	..
Poucher, J. W.*	39‡	..	3	..
Gellhorn, George*	3	..	2	..
Crossen, H. S.[108]	1	..	0	..
Rosenthal, M. I.[109]	3	..	0	..
Hutchins[110]	8	50	1	12.5
Jacobson, J. H.*	7	..	2	..
Barrett, C. W.*	6	..	1	..
Cushing, E. W.*	12	25	..	...
Humiston, W. H.*	2	..	0	..
Sampson, J. A.*	14§	50	4	..

† All of body to cervix.
‡ At present all cases.
§ Since 1905.

OPERABILITY

In the 2,765 operations reported by 130 operators, I found the percentage of operability, as recorded by 28, to vary from 5 per cent. to 90 per cent. The operability percentage is decidedly higher among European surgeons.

TABLE 2.—PERCENTAGE OF OPERABILITY

CONTINENTAL OPERATORS

	Per Cent.
Berkeley and Bonney[13]	67
Bumm[16]	90
Döderlein[16 23 24]	68.6
Franz[34 35 36 37 38]	81.35
Jeannel[46]	30
Kroenig[46 53 54]	87
Klein[55 56 57 58]	40
Kuestner[16 59 60]	68.7
Lockyer[64]	70.59
Mackenrodt[53 17 65 66 67 68]	92
Muller[54]	89.5
Polosson[14 74 75]	56
Reinicke[78]	40.76
Rosthorn[82 83 84 1 111]	36.1
Wertheim[86 87 27 88 89 33 75 90] to [102]	60.0
An average operability of	65.17

The average per cent. of operability excluding Wertheim's figures is 65.54 per cent.

AMERICAN OPERATORS

	Per Cent.		Per Cent.
Peterson	20	Tate	15
Rider	40	Cumston	5
Jonas	50	Frank	25
Cannady	50	Poucher	100
Smith	20		
Janvrin	10		
An average operability of			35

In the twenty-eight instances in which I found the operability recorded, seven had a percentage of less than 25 per cent.; 10 gave it as being between 25 to 50 per cent.; five between 50 to 75 per cent., while six gave a percentage of 75 and over. It must be emphasized that with the radical abdominal operation, a higher percentage of all cases of cancer of the uterus are operable than by any other method, and this to a large extent, explains its high primary mortality. If the radical abdominal operation was performed only in the early cases, or in cases in which a vaginal hysterectomy could be made, the operative mortality would not be considered high.

There exists a definite relation between the percentage of operability and the mortality-rate of the operation. The primary mortality is dependent, for the most part, on the degree of operability of a given case, as well as on the percentage of operability of all cases which the individual operator possesses. It is obvious that the earlier the patients are seen, the higher will be the percentage of operability and the lower the primary mortality. The operability percentage as well as the primary mortality is likewise influenced by the experience which the operator has had with the method; with a larger experience comes a greater familiarity with the technic of the operation and therefore an increase in the operability of all cases seen, with fewer deaths from the operation. These facts are well illustrated in Table 3, in which I have endeavored to ascertain the relation of operability with primary mortality, and have therefore compared operators having an operability of less than 50 per cent. with those of 50 per cent. or more.

TABLE 3.—OPERABILITY COMPARED WITH PRIMARY MORTALITY

OPERATORS HAVING AN OPERABILITY OF LESS THAN 50 PER CENT.

Operator.	Per Cent.		Per Cent.
Döderlein	48-68	Primary mortality	14.3
Jeannel	30	Primary mortality	35
Klein	40	Primary mortality	12.8
Reinecke	40.76	Primary mortality	21.21
Von Rosthorn	36.1	Primary mortality	13.67

An average operability of 38.95 per cent., with a primary mortality of 19.39 per cent.

OPERATORS HAVING AN OPERABILITY OF MORE THAN 50 PER CENT.

Operator.	Per Cent.		Per Cent.
Bumm	90	Primary mortality	20
Franz	81.35	Primary mortality	19.28
Mackenrodt	92	Primary mortality	19-21
Polosson	56	Primary mortality	18.7
Wertheim	60	Primary mortality	24.5

An average operability of 75.87 per cent., with an average primary mortality of 20.69 per cent.

Simultaneously with the adoption of the radical abdominal operation; many authors record an increase in the operability of all patients presenting themselves for examination; thus Baisch[22] states that at Tübingen the operability of all cases of cancer of the uterus rose from 48.3 per cent. to 68.6 per cent. with the introduction of the radical abdominal operation, while Muller, in Berne, raised his operability from 33 per cent. to 89 per cent.; von Rosthorn to 36.1 per cent.; Döderlein[16] from 48.3 per cent. to 68.6 per cent.; Franz[34] from 29.2 per cent. to 52 per cent.; Kuestner[17] from 34.5 per cent. to 68.7 per cent.; Zweifel[106] to 68.4 per cent.; Kroenig[16, 54, 53] 61.7 per cent. to 87 per cent.; Polosson[14, 74, 75] 12.14 per cent. to 56 per cent.; Wertheim[90, 102] to 60 per cent. in his last 200 cases.

PRIMARY MORTALITY

In the 2,765 operations tabulated, there were 538 deaths, a gross primary mortality of 19.45 per cent. This percentage agrees in the main with what has heretofore been generally considered as the primary mortality, namely about 20 per cent.

The Continental surgeons in 2,467 operations had 492 deaths, a primary mortality of 19.94 per cent., which, exclusive of Wertheim's cases, was 13.79 per cent. The American surgeons in 298 operations, had forty-six deaths or a primary mortality of 15.77 per cent.

The gross mortality of all the operations recorded is necessarily high, yet not so high as one might expect from so formidable an operation in the hands of so many different operators. The following list further shows that in individual instances, the primary mortality is much below the average, as for example:

Döderlein in 209 operations had 30 deaths or 14.3 per cent.
Jacobs in 95 operations had 6 deaths or 6.37 per cent.
Kline in 52 operations had 7 deaths or 12.8 per cent.
Zweifel in 192 operations had 17 deaths or 10.8 per cent.

Although it is of the greatest importance, I have, for lack of detailed data, been unable to tabulate and contrast the results of the cases which have been operated early with those which have been operated late. The percentage of operability has a relative bearing on these questions and has been considered above.

I have been able to find a number of references illustrating the fact that with an increased experience, individual operators have had a corresponding decrease in the primary mortality rate.

Bouvier[113] 1904, states that Mackenrodt in his last twenty-one cases had two deaths or 9.5 per cent.

Baisch[22] 1905, reports that the primary mortality in Döderlein's cases was 15 per cent., and that in his last forty-five cases it decreased to 6.6 per cent. Bergesio[10] states that from 1898 to 1906, the Wertheim operation was done by himself and Berutti seventy-nine times; if we divide the time of these operations into three-year periods, we have the *following figures:*

1898 to 1900, 20 operations with 9 deaths, primary mortality 45 %
1901 to 1903, 32 operations with 11 deaths, primary mortality 34.5%
1904 to 1906, 27 operations with 7 deaths, primary mortality 26 %

Von Franque,[28] 1909, reports 166 operations with a 20 per cent. primary mortality.

In 1905 he made 38 operations with primary mortality of 13%
In 1906 he made 42 operations with primary mortality of 26%
In 1907 he made 44 operations with primary mortality of 16%

He had series of cases, as many as eighteen consecutively, without a death. Von Franque, however, does not think it will be possible to reduce the mortality as low as 10 per cent.

J. L. Faure[31] writing in 1906, reports the following figures:

First series (15 operations) 9 deaths (primary mortality of 60%)
Second series (18 operations) 6 deaths (primary mortality of 33%)
Third series (7 operations) 1 death (primary mortality of 14%)

Scheib[27] gives the figures presented in Table 4 by years, containing the number of patients with cancer of the cervix who died primarily from operation as well as the total who came to operation, including the number of attempts at operation in which the radical operation could not be completed.

TABLE 4.—OPERATIONS AND MORTALITY IN SCHEIB'S CASES

Year.	No. Cases.	Inclusive Attempts.	—Deaths— No.	—Deaths— Per Cent.	Deaths Inclusive Attempts at Radical Operation.
1903	15	17	4	26.6	5 or 29.8 per cent.
1904	22	25	4	18.1	5 or 20 per cent.
1905	35	38	5	14.2	5 or 13.1 per cent.
1906	39	42	10	25.6	11 or 26.1 per cent.
1907	38	44	7	14.4	7 or 15.9 per cent.
	149	166	30	20.1	33 or 19.8 per cent.

E. Wertheim[103] (1902) gives the following figures:

Primary results of his first 30 cases, 12 deaths
Primary results of his second 30 cases, 5 deaths
Primary results of his third 30 cases, 3 deaths
Primary results of his fourth 30 cases, 4 deaths

His total mortality is 20 per cent. and, if we exclude the first thirty cases on account of imperfection of technic, his later ones give a primary mortality of only 13 per cent. Wertheim[27] stated at the 1909 International Congress, at Budapest, that in his last 200 cases, the primary mortality was only 10 per cent.

R. Peterson (1910) reports a primary mortality in his first series, of 14 cases, 42.8 per cent.; in his second series, of 22 cases, of 4.5 per cent.

Schindler[85] 1904, reports that, at von Rosthorn's clinic, in twenty-five operations performed from Jan. 1, 1903, to April 1, 1904, there were only two deaths or a mortality of 8 per cent.

CAUSES OF DEATH

The causes of death from the radical abdominal operation for cancer of the uterus are given as shock, peritonitis, infection, sepsis and injury of the ureters.

I have been able to find in the literature only eighty detailed cases of death which were directly traceable to the operation. The relative frequency of each cause is illustrated in the following list of causes:

Infection and sepsis	31
Peritonitis	19
Total	50
Shock	18
Injury of the uterers	2
Pneumonia	2
Nephritis	2
Anemia	2
Paralysis of the heart	1
[illegible] the heart	1
[illegible]	1
[illegible]	1
Total	80

This list shows the relative high frequency of deaths due to infection, sepsis and peritonitis, fifty out of the eighty cases being due to these causes. Shock ranks next in relative importance as a cause of death, there being eighteen cases.

The most potent argument which has almost universally been used against the employment of the radical abdominal operation in the surgical treatment of carcinoma uteri, has been the high primary mortality which accompanies the operation. That the operation is correct in theory, and is the only one which conforms to our modern conception of the pathology of the disease, seems to be universally agreed; but its high primary mortality has not only deterred many operators from performing it, but has led to its abandonment by some who had already adopted it.

Those who make the criticism that the primary mortality of the operation is too high must not forget that the history of all major abdominal operations, in their period of development and perfection, have been accompanied by a higher mortality, and that such death-rates should not be taken as final.

SUMMARY OF THE REVIEW OF THE PRIMARY MORTALITY

1. In the 2,765 operations tabulated there was a primary mortality of 19.45 per cent.
2. The average percentage of primary mortality among Continental surgeons was 19.94 per cent. and among the American operators 15.77 per cent.
3. In individual instances the deaths from this operation have been reduced considerably under the general average, Jacobs 6.37 per cent., Zweifel 10.8 per cent., Kline 12.8 per cent., Wertheim in last 200 cases 10 per cent. and Döderlein 14.3 per cent.
4. The primary mortality is much lower when the operation is made before the disease has advanced too far. According to Berkeley in early cases the primary mortality is only 6.8 per cent., as compared to 26.7 per cent. in late cases.
5. The relatively high primary mortality of this operation is largely due to the greater number of cases operable by this method, the result being that cases are operated in a stage too far advanced for the employment of any other method of operation.
6. Death from this operation seems to be due in most instances to infection and sepsis and not as a rule to shock as is generally supposed to be the case.

The infection is, in all probability, the result of the presence of pyogenic bacteria in the carcinomatous mass and large area of raw surface exposed during the operation.

Shock may be due to any one or more of the following causes:

1. Inaccessibility of the deep pelvic structures, causing rough manipulations.
2. Manipulation and exposure of the abdominal viscera, particularly the small intestines.
3. Hemorrhage.
4. Prolonged operation with subsequent prolongation of the anesthesia.

FINAL RESULTS

It is too early at the present time to obtain a large amount of corroborative information regarding the end results of the radical abdominal operation. This is due mainly to two reasons: (1) the operation is still in its period of development, and (2) in only a few instances have operators been performing the operation for a sufficient length of time to have series of cases which have been observed for five years after the operation.

The following reports as they exist in the literature, together with the personal reports which I have been able to obtain from some of the American operators, represent the end results with the radical abdominal method as near as they can now be determined:

Bergesio and Berrutti[10] reported 1906, *their final* results in 20 operations performed from 1898 to 1900; 3 patients were alive two years after operation: 1, three years afterward, and 2, four years afterward; 11 were unaccounted for and 4 patients had relapsed and died in periods ranging from six months to twenty-two months after operation; 33 per cent. were alive from one year and ten months to four years.

Bumm,[16] reporting in 1907, was able to trace fifty-six women out of seventy-five in whom he had made the radical abdominal operation. Thirty per cent. were alive more than one year after operation.

Dobbert,[19] in 1907, out of twenty-five radical abdominal operations, gives the end results in eleven. Seven patients are free from recurrence one to four years after operation (35.7 per cent.).

Döderlein,[16] in 1907, reported forty-seven radical abdominal operations which he performed in 1902. Of the patients fifteen were free from recurrence three and one-half to four and one-half years after operation (31.9 per cent. Waldstein, 37.5 per cent. Winter); fifteen of these operations were made for cancer of the body of the uterus, which gave a primary mortality of 6.6 per cent., with an operability of 100 per cent. and a percentage of cure, after Winter, of 72.7 per cent. (or 53.3 per cent. after Waldstein). The thirty-two cases of cervical cancer gave an operability of 60.3 per cent., a primary mortality of 18.7 per cent., with permanent cure in 26.9 per cent. after Winter and 21.8 per cent. after Waldstein; an absolute cure of all cases observed three and one-half to four and one-half years after operation 16.2 per cent. were after Winter, 13.1 per cent. after Waldstein. He contrasts this with the end results of vaginal hysterectomy at Tübingen, which was only 9 per cent.

Mackenrodt,[68, 53, 27] in 1908, reports that among 144 patients operated on by his method, who were observed eighteen months to six and one-half years after operation, there were 61.5 per cent. of all or 74 per cent. of the *surviving patients still* well. The primary mortality in the last few years has been between 19 and 21 per cent. in an operability of 92 per cent.

Absolute cure 18 months to 6½ years, 55.6 per cent.
Absolute cure 3½ years to 6½ years, 52.6 per cent.
Absolute cure 4½ years to 6½ years, 45.4 per cent.
Absolute cure 5½ years to 1½ years, 58.3 per cent.

Polosson[75, 14, 74] reported in 1907 that after thirty-two radical abdominal operations for uterine cancer, 60 per cent. of the patients were alive after five years.

Reinecke,[78] in 1909, reports the final results in sixty-six cases. Up to the end of 1903 twenty-seven radical abdominal operations were made for cervical cancer. Of the twenty surviving patients, seven are still free from recurrence, making a permanent cure of 35 per cent.

Recurrences were as follows:

First year there were 23 recurrences
Second year there were 5 recurrences
Third year there were 3 recurrences
Fourth-Fifth year there were 0 recurrences

Enlarged glands were removed in twenty-six of the sixty-six cases; in twelve instances they were found carcinomatous; all cases, excluding the primary deaths, recurred, with one exception, in which the glands had been found carcinomatous, or in which carcinoma-like cells were found.

Von Rosthorn[85] reported by Schindler in 1906 thirty-three abdominal radical operations. Twenty-seven patients have been observed for a period of five years and six for a period of four years. Seventeen patients have had recurrences and five have remained well. This makes 77.2 per cent. of recurrences with a permanent cure of 22.7 per cent.

Veit,[89] writing in 1910, states that out of thirty-three radical abdominal operations performed in 1904 for uterine cancer with a primary mortality of eleven cases, nine patients are now living, and, among these, one from whom probable carcinomatous glands were removed.

TABLE 5.—COMPARISON OF OPERATIONS FOR UTERINE CANCER

Method.	Operability.	Primary Mortality.	Permanent Cures After Five Years.	Absolute Cures.
1. Radical abdominal operation by Continental surgeons, including Wertheim.*.	65.17 per cent...........	19.94 per cent...........	40.72 per cent. (five operators)..................	Average 21.14 per cent. (five operators with a period of observation from 2-6½ years).
2. Wertheim's results. †........................	60 per cent. in last 200 cases...................	10 per cent. in last 200 cases..................	58.6 per cent. (Dresden Congress, 1907)........	19.3 per cent.; awaits 30 per cent. on account of increase in operability.
3. Radical abdominal operations by Continental surgeons, not including Wertheim.*.......	65.54 per cent. (Continental Surgeons)......	13.79 per cent. (Continental Surgeons)......	36.25 per cent.; average of 4 European Surgeons..................	Average 21.40 per cent. (four operators 3 to 5 years after operation).
4. Extensive vaginal hysterectomy, Schauta.†..	47.7 per cent............	10.7 per cent............	39.5 per cent............	13.4 per cent.
5. Vaginal hysterectomy.††.....................	25 to 40 per cent........	8 to 10 per cent.........	Lasting results in 33⅓ per cent., Gusserow, 1890-1900 (ca. cervix), 24.4 per cent. (ca. body), 100 per cent....	7 to 10 per cent.
6. Byrne's operation, 237 cases, 151 lost sight of.‡	100 per cent.............	Nil.......................	Three years after operation (65 cases), 17.71 per cent.; five years after operation (46 cases), 12.53 per cent..	Three years after operation 17.71 per cent.; five years after operation (46 cases), 12.53 per cent.

* Compilation by the author.
† Internat. Med. Cong., Budapest, 1909.
†† Döderlein-Kroenig, 1907.
‡ Tr. Am. Gynec. Soc., 1889, xiv and xvii.

Wertheim,[27, 102] at the last International Medical Congress, 1909, at Budapest, reported the final results in 487 operations by this method; 200 patients were operated on more than five years ago. The primary mortality was 24.5 per cent. and the absolute cure in all cases 19.3 per cent. In the last series of cases the primary mortality has been lowered to 10 per cent. and the operability has risen to 60 per cent., so that Wertheim states that he expects an absolute cure, in all cases observed of 30 per cent. The accuracy of his statistics is demonstrated by the fact that none of his cases were lost from observation. At the Kiel congress, in 1905, Wertheim reported 60 to 70 per cent. of permanent cures (Winter) after five years, and at the Dresden congress, in 1907, he reported 120 radical abdominal operations the patients having been observed for five years after operation, among whom there was a permanent cure of 58.6 per cent. (Winter).

The summary of permanent results of continental operators is as follows:

Three operators report 20% to 30% of cures from 1 to 5 years
Seven operators report 30% to 40% of cures from 1 to 8 years
Three operators report 40% to 50% of cures from 1 to 5 years
One operator reports 50% to 60% of cures after 3 years
Five operators report 60% to 74% of cures from 1 to 6½ years

Operators reporting permanent cures five years after operation are as follows:

Von Rosthorn........................	20	per cent.
Veit	30	per cent.
Wertheim	58.6	per cent.
Polosson	60	per cent.
Reinicke	35	per cent.

Average of the five operators, 40.72 per cent.; permanent cures five years after operation.

Average of the American operators, 8.39 per cent.; *permanent cures five years after operation.*

From the 298 radical abdominal operations by American operators there were forty-six deaths (15.77 per cent.) of the 252 survivors, seventy-eight are still free from recurrence and twenty-five or 8.39 per cent. are alive and well five years after operation.

These twenty-five cases are reported by the following:

	Cure.	
Peterson	3	Permanent cure five years after operation.
F. Reder............	2	Permanent cure five years after operation.
E. Rixford..........	2	Permanent cure five years after operation.
J. E. Janvrin.......	2	Permanent cure five years after operation.
J. O. Polak.......	1	Permanent cure five years after operation.
C. G. Cumston......	3	Permanent cure five years after operation.
J. W. Poucher......	6	Permanent cure five years after operation.
C. W. Barrett......	2	Permanent cure five years after operation.
Emil Ries..........	4	Permanent cure five years after operation.

The following is a summary of absolute cures:

Mackenrodt,[63] 58.3 per cent., 5½-6½ years after operation.
Wertheim,[102] 19.3 per cent., 5 years after operation.*
Döderlein,[16] 1902, 16.2 per cent., 2½-3½ years after operation.
Döderlein,[16] 1903, 22 per cent., 2½-3½ years after operation.
Von Franque,[23] 10.1 per cent., 3 years after operation.
Von Franque,[23] 19.4 per cent., 2 years after operation.
Von Rosthorn,[83] 2.65 per cent., 5 years after operation.
* Awaits returns from 30 per cent.

The advisability of removing enlarged and carcinomatous glands, when such are found at the operation, is still one of the mooted questions in the performance of radical abdominal operation. While most operators agree that when such enlarged and carcinomatous glands are found, a recurrence is the rule, and in spite of the fact that Wertheim and others consider the wide excision of the parametria as the all-important factor in the operation, the following reports of patients alive without recurrence five years after operations in which such carcinomatous glands were removed commands our serious consideration.

PERMANENT CURES FROM ABDOMINAL OPERATION IN WHICH CARCINOMATOUS GROWTHS WERE REMOVED

Emil Ries,[14] in 1906, reported four cases in which carcinomatous glands were removed at the time of operation; the patients were free from recurrence five years after operation.

Döderlein[10] has two patients with carcinoma of the cervix who were operated on in 1902, with simultaneous removal of carcinomatous glands, who have remained free from recurrence four and one-half years. He also has three other patients, operated on in 1903, who have remained free from recurrence for three to three and one-half years.

Wertheim[16] has had four similar cases with freedom from recurrence from three to three and one-half years after operation.

Mackenrodt[16] had eighteen cases of radical operation with the removal of carcinomatous glands which, as reported by Brunet, are as follows:

Three cases in 1901, 1 patient remaining well without recurrence
Four cases in 1902, 3 patients remaining well without recurrence
Nine cases in 1903, 7 patients remaining well without recurrence
Two cases in 1904, 1 patient remaining well without recurrence

Von Rosthorn[85] had one case with ultimate recovery.

Bumm[85] had two cases in which carcinomatous glands were removed, in one of which the right ureter had become infiltrated with cancer which necessitated the removal of the right kidney; both patients were well after two and one-half years.

Veit[89] reports one patient alive after five years in whom the glands were probably carcinomatous.

CONCLUSIONS

From the foregoing summary we are warranted in drawing the following conclusions regarding the operability, primary mortality, permanent results and absolute cures obtained from the radical abdominal operation for uterine cancer:

1. Among Continental operators, including Wertheim's figures, an operability of 65.17 per cent., a primary mortality of 19.94 per cent., a permanent cure from three to five years in 40.72 per cent. (five operators) and an absolute cure in all cases of 21.14 per cent. (five operators with period of observation from two to six and one-half years).

2. Wertheim's figures are an operability of 60 per cent.; a primary mortality of 10 per cent.; permanent cures after five years in 58.6 per cent., and an absolute cure of all cases in 19.3 per cent., with a probability of 30 per cent.

3. Other Continental operators exclusive of Wertheim's figures, give an operability of 65.54 per cent.; a primary mortality of 13.79 per cent.; an average permanent cure five years after operation in the hands of four other operators of 36.25 per cent., with an average absolute cure in all cases three to five years after operation in the hands of four operators of 21.44 per cent.

4. Eleven American operators give an average operability of 35 per cent.; a primary mortality of 15.17 per cent.; permanent cures after five years, 8.39 per cent. On this basis the absolute cure would be approximately 1 per cent.

In Table 6 is found a comparison of the results obtained from the radical abdominal operation with those obtained from other operations for cancer of the uterus.

From the review it is apparent that the best results in the surgical treatment of uterine cancer are obtained from radical abdominal operation.

The real problems at the present time in the surgical treatment of uterine cancer are not what particular operation gives the best results, but, rather, how such patients can be operated on earlier and how the primary mortality of the radical abdominal operation can be further reduced.

The first problem can be solved only by a campaign of education in our medical schools and in our medical societies, together with some form of public instruction similar to that which has been inaugurated in Germany by Dührssen and Winter. The problem of reducing the primary mortality is one which I believe will be solved largely in the next few years. Further experience with the technic of the operation, the use of spinal anesthesia, perhaps the more general employment of Mackenrodt's transverse abdominal incision, Bumm's modification of Wertheim's technic for quickly locating the ureters, further experience with implantation of the ureters in the blader, diminution of the exposure and manipulation of the viscera, and the diminution of the dangers from hemorrhage either by Momburg's method or by temporarily clamping the internal iliac arteries, are some of the methods and procedures which, combined with early operation, will help toward solving this problem.

THE PARTICIPATION OF THE TISSUES ADJACENT TO THE UTERUS AND OF THE PELVIC LYMPHATICS IN UTERINE CANCER*

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Cancer may arise either in the body or in the cervix of the uterus. The former variety is infrequent, occurs as often in nulliparous as in parous women, and the average age of those afflicted is greater than in cancer of the cervix. Its growth is usually slow and it remains restricted to the uterus for a relatively long period of time (Fig. 1). For the latter reasons the diagnosis is usually made while it is limited to the uterus, and hysterectomy for this condition is attended with a low primary mortality and a high percentage of cures.

Cancer of the cervix, on the other hand, is one of the most frequent varieties of primary carcinoma; it usually occurs in parous women; and it is more often a disease of midlife than of old age. (A large percentage of its victims are under 45; and its occurrence in those under 35 is not infrequent.) Its growth is often rapid and it soon extends beyond the cervix by the direct invasion of the adjacent tissues (Fig. 2) and by metastases to the lymph structures of the pelvis. Its frequency, virulence, the youth of many of its victims and the fact that they usually have children make it one of the most dreaded diseases and one of the most important problems confronting the gynecologist at the present time. Its rapid growth and early extension

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at St. Louis, June, 1910.

[*] For reasons of space, part of the text and of the illustrations are omitted. The entire article appears in the Transactions of the Section and in the author's reprints.

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beyond the uterus have in a large measure been responsible for the failure to recognize it while it is still confined to that organ. In a large percentage of the cases the condition is detected too late for anything but palliative treatment, and hysterectomy is attended with a high primary mortality and a very small percentage of cures.

On account of its greater frequency, malignancy and importance, cancer of the cervix alone will be considered in this communication.

Clinical experience has taught that only a small percentage of patients have been cured by operation; thus suggesting that either the entire growth had not been removed or, through faulty technic, the pelvic tissues had been infected with cancer at the time of the operation, or that there has been a true recurrence of the disease.

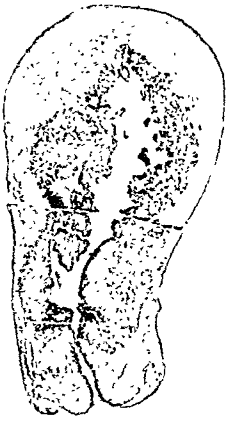
Fig. 1.

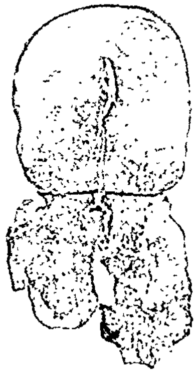
Fig. 2.

Fig. 1.—Advanced cancer of the body. From photograph of stained median sagittal section of the uterus (× ½), operative speciment. The growth usually does not extend beyond the uterus until late in the course of the disease, and in the majority of cases the diagnosis is made before this has taken place. Hysterectomy is attended with a low primary mortality and a high percentage of cures.

Fig. 2.—Advanced cancer of the cervix. From photograph of stained median sagittal section of the uterus (× ½), operative specimen. The growth usually extends beyond the cervix early in the course of the disease and the diagnosis is rarely made while it is restricted to the uterus. Hysterectomy is attended with a high primary mortality and a very low precentage of cures.

It is evident that a knowledge of the exact extent of the disease, especially in the "operable" cases, is of the greatest importance in the intelligent treatment of this condition.

The study of the specimens removed by the more radical operations has shown that the disease had extended beyond the uterus in a large percentage of them. The careful studies of Kundrat[1] in Wertheim's clinic have been of great value. Similar studies have been made in other clinics and they all, in the main, confirm the findings of Kundrat.

In 1906 I reported[2] the results of a careful study of twenty-seven specimens removed in Dr. Kelly's clinic at the Johns Hopkins Hospital. Cancer was found in the parametrium in seventeen instances, eight times as direct extension alone, either in the form of thread-like processes or *en masse;* three times as metastases in the lymph structures of the parametrium without any evidence of a direct extension of the disease from the cervix; and in six cases both forms of invasion were present. In nineteen cases some of the pelvic lymph-nodes had been removed, and cancer was found in nine of these. In three of the latter there was no evidence of cancer in the parametrium. I am at present studying the material from eighteen additional cases; fourteen of the specimens were obtained by me at operation, and four at autopsy from patients dying during the advanced stages of the disease. While these studies are not yet completed they confirm the findings in the previous report.

We may classify cervical cancer according to its origin, whether from the portio vaginalis or from the mucosa of the cervical canal. Irrespective of their situation or histologic structure the growths may usually be grouped as either everting (vegetative) or inverting (infiltrating). Intermediate types are seen, and possibly in the progress of the disease a growth may sometimes pass from one morphologic type into the other.

The everting type, arising from the portio vaginalis, forms a sessile or pedunculated tumor projecting into the vaginal canal; it tends to spread over the mucosa and gradually invades the underlying tissues (Fig. 3). It is apparently less malignant and less frequent than the inverting form.

In the latter variety the process seems to be reversed. The growth soon extends into the deeper tissues and sometimes with very little evidence on the surface (Fig. 4). Necrosis often occurs early with a resulting loss of tissue and the formation of the so-called ulcers. This variety is apparently the more frequent one and also the more malignant. It soon extends beyond the uterus by the direct invasion of the adjacent tissues and by metastases to the lymphatic structures of the pelvis.

The two varieties may also arise from the mucosa of the cervical canal; here the inverting form is the more frequent and malignant (Fig. 5).

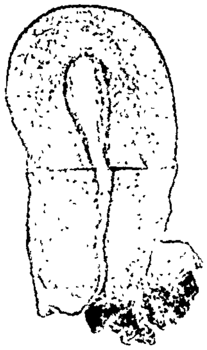
Fig. 3.

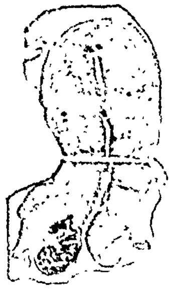
Fig. 4.

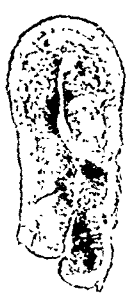
Fig. 5.

Fig. 3.—Everting cancer of the portio vaginalis (× ½). Less frequent and malignant than the following; bleeding usually occurs early, the growth is readily detected on inspection and palpation.

Fig. 4.—Inverting cancer of the portio vaginalis (× ½). One of the most frequent and malignant types; bleeding may not occur until late in the course of the disease and the diagnosis is not as easily made as in the preceding.

Fig. 5.—Inverting cancer of the cervical canal (× ½). This type is apparently less frequent and less malignant than the same type arising in the portio vaginalis; bleeding may not occur until late in the course of the disease. In its early stages a diagnosis can be made only through curettage of the cervical canal.

THE DIRECT EXTENSION OF CANCER INTO THE TISSUES ADJACENT TO THE UTERUS

Cancer may invade the tissues adjacent to the uterus as delicate thread-like processes or *en masse.* These processes are sometimes found in the nerve sheaths, other times in definite lymph-vessels but more often in whatever tissues are nearest the growth, in what are known as lymph-spaces. The parametrium is the tissue most frequently involved and often near the junction of the cervix and the vagina (Fig. 6). This is a very unfortunate situation because here the cervix is in its closest proximity to two very important structures, namely, the bladder and the ureters (Fig. 7). Furthermore, it is very difficult to obtain a wide excision of the parametrium at this level, whereas higher up, where the direct extension is less frequent, a wide excision is much easier. The growth may extend anteriorly, laterally or posteriorly. In its anterior extension it soon reaches the bladder, in its lateral, the tissues about the ureters, while posteriorly it is separated from the rectum by the cul-de-sac. The place at which the cancer extends beyond the cervix is determined by many factors, such as its origin, *i. e.*, whether in the portio vaginalis or the mucosa of the cervical canal, whether in the anterior or posterior lip and whether near the right or left side. There are other factors determining the direction of its growth which we are unable to ascertain.

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[1] Kundrat: Arch. f. Gynäk., 1903, lxix, 355.

[2] Sampson, J. A.: Am. Jour. Obst., 1906, liv, 433.

The reaction on the part of the tissues involved varies greatly in different specimens. Often there is an increase in connective tissue; at other times an inflammatory exudate is present; and again there may not be any apparent reaction on the part of the tissue surrounding the growth. The reaction may sometimes be due to the presence of bacteria in the necrotic portion of the growth, but I think that it is often due to the cancer itself, because the tissues involved by the metastases may show the same reaction as those involved by the primary growth.

The Bladder.—In the study of the specimens obtained in the forty-one operative cases the musculature of the bladder wall was found to be invaded by cancer in eight (Fig. 8). In seven of these it occurred at the level previously mentioned. If the growth causes a marked reaction in the surrounding tissues, the bladder may become adherent to the cervix before the growth has extended through the cervical tissues. This may be detected during the operation in attempting to free the bladder from the cervix.

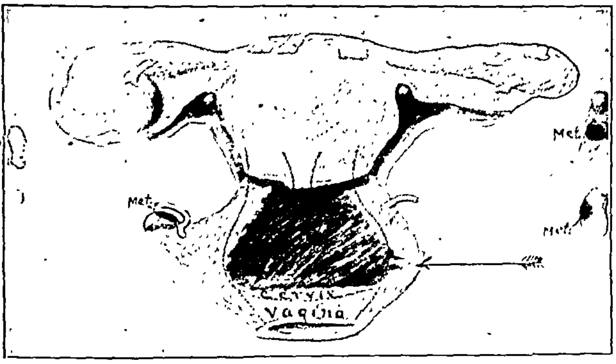

Fig. 6.—The most frequent situation of the direct invasion of cancer into the parametrium. From drawing showing the extent of the cancer in an illustrative case (× ½). In over half of the operative cases the parametrium is already invaded by cancer. This occurs most frequently at the junction of the cervix and vagina (see arrow), where the cervix is in its closest proximity to the bladder and the ureters.

The early involvement of the bladder has not received the attention it deserves. Its most important feature is that the growth may invade the intramural portion of one or both ureters.

The Ureters.—It is well known that hydro-ureter and hydronephrosis, due to compression or actual invasion of the lower end of the ureters, exists in a large percentage of the patients dying in the advanced stages of the disease. The renal insufficiency resulting from stricture of the ureters is a frequent cause of death. The proximity of the ureters to the cervix, the early invasion of the parametrium, especially at the level where the ureters are nearest the cervix, the frequency of accidental injury to these ducts in hysterectomy for uterine cancer, together with the autopsy findings mentioned above, would cause one to infer that the ureters were actually involved by the growth soon after its extension from the cervix. I have studied very carefully the parametrial portion of twelve ureters (twice a double ureter was present, thus making fourteen) which had been resected on account of the apparent invasion of the parametrium about the ureters by cancer. In four cases both ureters had been resected and in four only one. In only one instance was I able to find a ureter actually invaded by cancer. In all these cases cancer was present in the parametrium and in some the invasion extended into the tissues about and even beyond the ureter. The single instance of invasion of the ureter occurred in its intramural (vesical) portion from cancer present in the wall of the bladder.

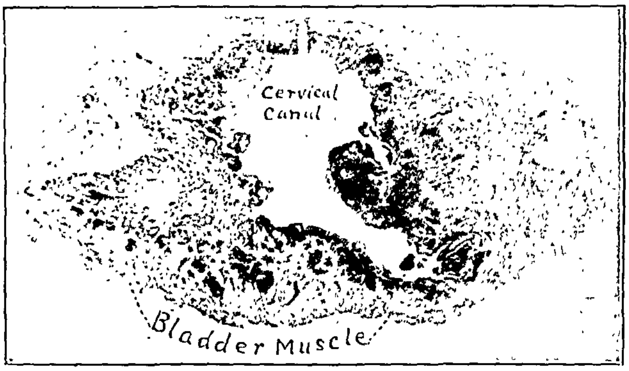

Fig. 8.—The direct extension of cancer into the bladder wall. From photograph of stained cross-section of entire cervix (× 1), operative specimen. The growth has invaded the parametrium laterally and the bladder wall anteriorly. The bladder is often invaded early in the direct extension of cancer from the cervix.

I have concluded (possibly from insufficient data) that the ureter is rarely invaded in the operative cases and have attributed this to three possible factors, first, its peristalsis; second, the protection afforded by its "sheath," and third, that there may be sufficient difference in the lymphatics of the cervix and ureters to render the early invasion of the latter infrequent. It seems remarkable that in a series of forty-one cases the bladder was involved in eight instances and a ureter only once and yet we realize that the main lymph-channels from the cervix cross the parametrial portion of the ureter. In previous papers I have called attention to the "ureteral sheath" and have stated that I believed that the peristalsis of the ureter converted the tissues about it into a form of sheath which is not a distinct anatomic structure but simply the tissues along the course of the ureter which had been molded into this shape (Fig. 7). In those cases in which the parametrium is invaded and there is a reaction on the part of the tissues involved with the formation of connective tissue, this "sheath" may become markedly hypertrophied (Figs. 9 and 10). In this hypertrophied condition it may afford temporary protection to the ureters. As this hypertrophy increases the ureter becomes compressed and later may become invaded by cancer. This marked thickening of the "sheath" may possibly arise from two sources, first, the reaction arising from its invasion by cancer and second, the local irritation caused by the ureter rubbing against it during its peristalsis.

From the study of material obtained at autopsy of those dying in the advanced stages of the disease I have found that the ureter may become involved from three sources; first, its intramural (vesical) portion from cancer in the bladder wall (Fig. 12), second, its parametrial portion from the direct extension from the primary growth (Fig. 13) or from metastases to lymph-nodes of the parametrium, and third, the pelvic portion above the parametrium from the direct extension from metastases in the pelvic lymph-nodes. Once gaining access to the ureter, the growth may extend in its walls and sections taken at other levels may show what appear like metastases in the ureter (Fig. 14).

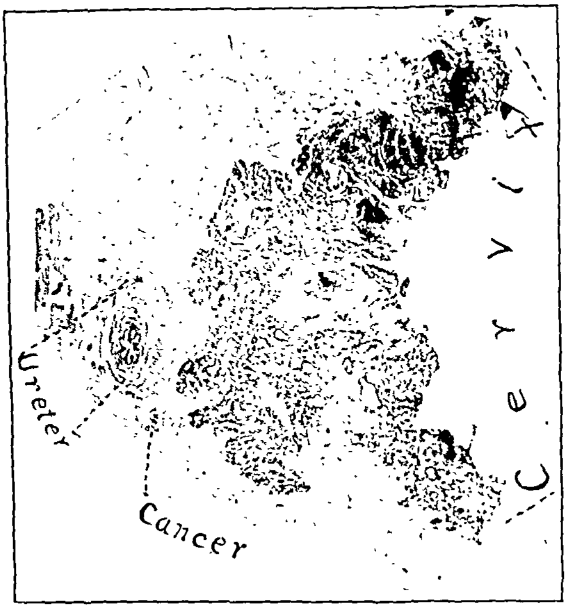

Fig. 9.—The direct extension of cancer into the tissues about the ureter. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. The growth has invaded the tissues (sheath) about the ureter, causing a hypertrophy of the latter, which may temporarily protect the ureter. The tissues about the ureter are often involved early in the direct extension of cancer from the cervix.

The Vagina.—The involvement of the vagina presents three pictures: the direct extension over the surface, the direct invasion of the deeper structures from above which may appear without any evidence of the disease on the surface other than a slight elevation caused by the growth in the underlying tissues, and finally the so-called implantations. Aside from an occasional slight involvement of the vagina at its junction with the cervix, in only four of the forty-one operative cases was there any marked invasion of its tissues.

I have had the opportunity to study only one "vaginal implantation" where the tissue between it and the primary tumor was intact. In this instance I found that the implantation was apparently connected with the primary tumor by a thread-like process of cancer, *i. e.*, it was a direct extension of the growth and did not result from a "retrograde metastasis" or implantation of cancer cells in an abrasion of the vaginal mucosa. I used the word "apparently" because complete serial sections were not made and thus I cannot state that the thread of cancer was intact for its entire course from the primary growth to the nodule in the vaginal mucosa.

Rectum.—In only one of the operative cases was the rectum invaded, and this resulted from the direct extension posteriorly with obliteration of the cul-de-sac and invasion of the anterior wall of the rectum. The rectum may also be invaded by the extension of cancer in the posterior vaginal wall.

Body of the Uterus, Tubes, and Ovaries.—The body of the uterus was involved in only seven of the forty-one cases, and in all of these the disease was advanced. This is more apt to occur in cancer arising in the cervical canal, especially if it is of the adenomatous variety. The tubes and ovaries were not examined microscopically in this series, but there was no evidence of cancer in them which could be detected in the gross specimens.

METASTASES

Apparently if cancer once gains access to a lymph-vessel it either grows in the vessel in continuity with the primary growth or, if set free, it is carried by the lymph-stream and usually does not stop until it reaches a lymph-node whether it be situated in the parametrium or further on. Metastases to structures other than lymph-nodes are very unusual.

Metastases may be divided into four regional groups: the parametrium, pelvic lymph-nodes, abdominal lymph-nodes, and lastly, other parts of the body.

Parametrium.—Metastases to the lymphatic structures in this situation are of frequent occurrence. A careful study of the parametrium has been completed in thirty-two of the forty-one operative cases and parametrial metastases were found in ten of these. In this situation we may recognize four varieties of lymph-nodes:

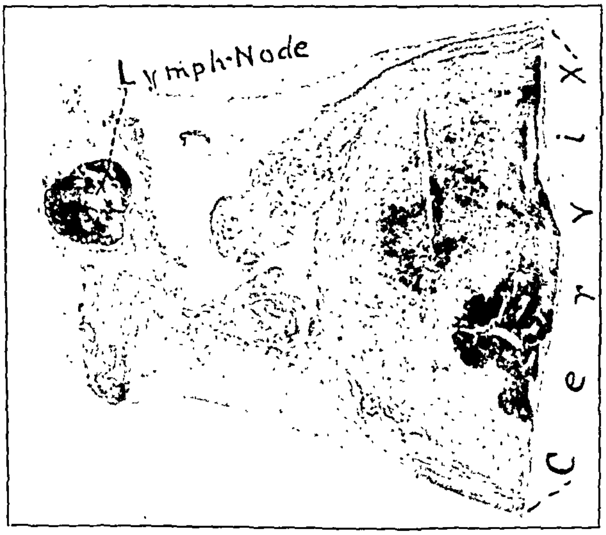

Fig. 15.—Metastasis in lymph-node inconstantly present near the crossing of the ureter by the uterine vessels. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen.

1. *The Parametrial Lymph-Node Inconstantly Present at the Crossing of the Ureter by the Uterine Vessels.*—It was found and removed eight times in this series of forty-one cases (and only on one side). Cancer was present in three of the nodes removed and in none of these did it apparently alter in any way the surrounding tissue (Fig. 15).

2. *Small Lymph-Nodes Scattered Throughout the Parametrium.*—These are apparently typical lymph-nodes and occur normally in varying number. They are usually found along the course of the main lymph vessels. In one instance a typical node was found in the tissues of the cervix itself (outer portion). Metastases were found in these nodes in four of the thirty-two cases in which a complete study of the parametrium has been made (Fig. 16). In one case there was a thickening of the tissues about the node and in another the retrograde growth of the cancer from the node into the afferent lymph-vessel. The infected nodes were apparently not increased in size and in two there was no change in the surrounding tissues.

3. *Intravascular Lymph-Nodes.*—These small nodes project into the lumen of the lymph-vessels like sponges. I do not know if they may occur normally in the parametrium or if they may be associated with diseased uterine conditions other than cancer. I have found them in only four specimens of uterine cancer and only in the parametrium. In three of these four cases, cancer was found in one or more of these nodes (Fig. 17). Possibly they are newly formed lymph-nodes and later develop into the small lymph-nodes previously described; or they may be the latter observed under different conditions of activity. In one specimen they were very numerous; in a section taken at one level eight were present.

4. *Small Lymph-Nodes Which Apparently Do Not Bear Any Relation to the Lymph-Vessels.*—Collections of lymphoid tissue about blood-vessels may be present in large numbers, appearing in the section as darkly stained areas the size of miliary tubercles. They apparently owe their origin to a stimulus directly or indirectly caused by the cancer, but do not necessarily bear any relation to the lymph-vessels. I have never seen any metastases in these nodes.

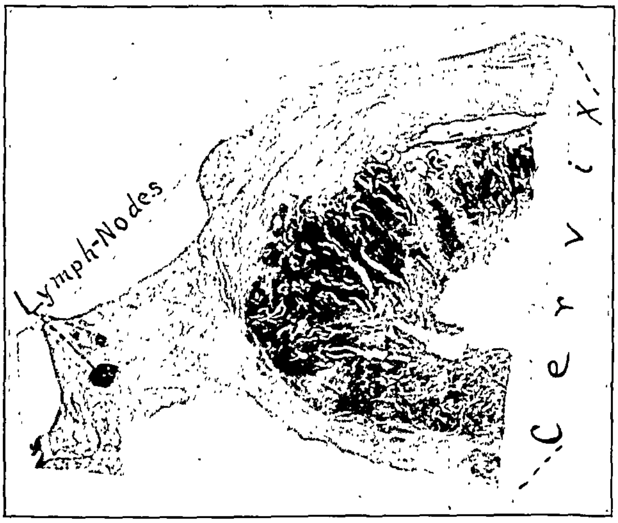

Fig. 16.—Metastasis in a small lymph-node of the parametrium. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. These nodes are normally present in varying numbers and are apparently sometimes increased in size and number in uterine cancer. A metastasis is present in the periphery of the larger node. It is possible that these nodes may sometimes prevent metastases from reaching more distant nodes.

Pelvic and Abdominal Lymph-Nodes.—The study of the material obtained from those operations where some of the pelvic lymph-nodes have been removed have shown that metastases occur in from one-third to one-half of these cases. I have studied the material from twenty-three of these cases and found cancer in the pelvic lymph-nodes in twelve. While these metastases occur more frequently in patients with extensive primary tumors they may be present in very early cases. The primary tumor may be very small, the parametrium free and yet metastases may be present. This occurred especially in the inverting type arising in the vaginal portion of the cervix. The glands most frequently found involved were those situated in the triangle between the external and internal iliac vessels and along the external iliacs. I do not think that my observations are of any great value in determining the exact distribution of metastases in the pelvic lymph-nodes because the above mentioned nodes were the ones most frequently removed and often others were not removed which might have been infected.

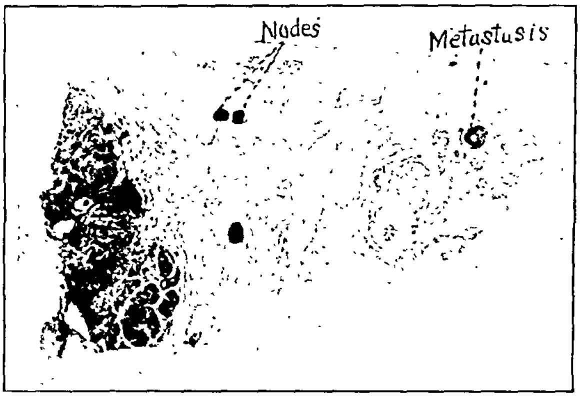

Fig. 17.—Metastasis in an "intravascular" lymph-node of the parametrium. From photograph of stained cross-section of the left half of the parametrium (× 2), operative specimen. These nodes project into the lumen of the lymph-vessels like sponges, are possibly newly formed, and it is possible that they sometimes check cancer as it is carried along the lymph-vessels.

I have studied all the abdominal and pelvic lymph-nodes in three operative cases. The patients died as the result of the operation and the lymphatics were obtained at autopsy. All the glands were cut and an attempt was made either to find or to exclude cancer. Metastases were found in only one of these cases. In this instance three nodes were found to contain cancer (Fig. 19).

The early metastases are usually found in the periphery of the node along its convex border or near its proximal pole. The reaction varies greatly (Fig. 20).

Metastases to the lymph-nodes in other parts of the body may occur but they are very infrequent.

CONCLUSION

The term "cancer of the uterine cervix" defines the exact condition present in only a very small percentage of the cases when first seen by the physician. In more than half of them the growth has so extensively invaded the adjacent structures that palliative treatment alone is indicated and in over half of the operative cases the growth has already extended beyond the uterus. As in its extension it invades the lymph-spaces of the adjacent tissues and metastases occur in the lymph-nodes of the parametrium, pelvis and even the abdomen, this condition should be studied and treated as carcinoma of the lymphatics of the uterus and adjacent tissues.

In its direct extension the lymph-spaces of the parametrium are usually first invaded, then those of the bladder wall and rarely, in the operative cases, those of the ureters, although the tissues about them may be infected and in this way the ureter may be compressed. Later in the course of the disease one or both ureters are very apt to be invaded.

Metastases to the pelvic lymph-nodes are present in at least one-third and possibly over half of the operative cases. While they are more frequently found in the advanced than in the early ones, they may be present in cases in which the primary growth is very small and the adjacent tissues free from cancer. Metastases to the abdominal nodes are sometimes present in the operative cases. I do not know their frequency and whether or not they may be present in the very early ones.

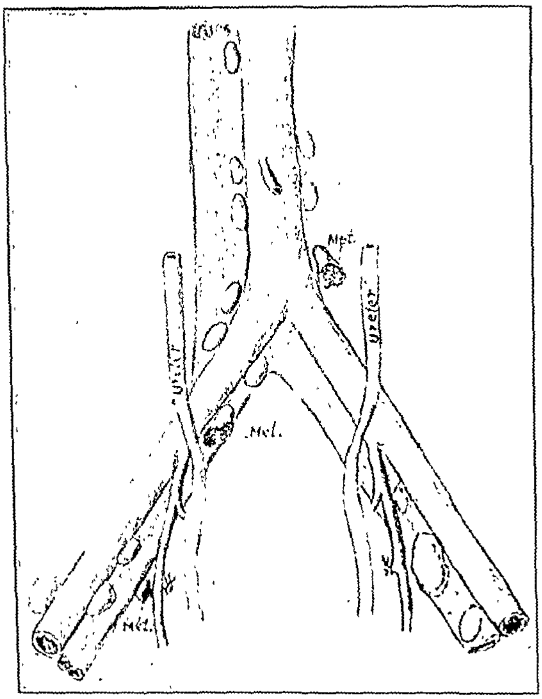

Fig. 19.—Metastases in the pelvic and abdominal lymph-nodes. The patient died on the fifth day after the operation. The abdominal and pelvic blood-vessels with their accompanying lymphatics were removed at autopsy. The lymph-nodes represented were found and carefully studied. Metastases were found in those indicated.

Should the operative treatment of this condition be based solely on laboratory findings it would consist in first, dissecting the lymphatics from the blood-vessels of the lower abdomen and pelvis, then freeing all the tissue lateral to the cervix from each pelvic wall and removing it, together with the lower portion of both ureters, the uterus and any portion of the bladder wall which may be adherent. We know that the ureters are actually invaded by cancer in only a small percentage of the operative cases but the tissue about them is very likely to be invaded and the main lymph-vessels cross them. In order to remove this tissue undisturbed the lower portion of the ureters would have to be sacrificed. The clean dissection of the lymphatics of the lower abdomen and pelvis is very difficult even in a cadaver and takes a long time—too long with our present technic for any patient to stand on the operating table. The resection of the ureters and their implantation into the bladder is attended with the danger of compressing them, thus causing renal insufficiency and possibly leading to renal infection. Such an operation is attended with a prohibitive primary mortality.

My own experience in the early cases with a wide excision of the parametrium and freeing the ureters with or without the removal of the accessible pelvic nodes has been attended with a very low primary mortality (I have not lost a favorable early case) and I hope for a high percentage of cures. This group of cases is small and sufficient time has not elapsed to render my statistics of any definite value. On the other hand, the operative treatment of the advanced cases, in which I have sacrificed a portion of one or both ureters or resected portions of the bladder wall (and in one case a portion of the rectal wall) has been attended with a high primary mortality (50 per cent.) and the growth has recurred in all patients who have survived the operation. The treatment of the so-called border-line cases, in which there has been a wide excision of the parametrium with freeing the ureters, has also been attended with a high primary mortality and the growth has recurred early in the majority of them. On the other hand two patients who were operated on in July, 1905, and which were unfavorable cases, are at present apparently free from cancer. In one of these, metastases were found in the pelvic lymph-nodes. Such instances as these encourage one to operate in unfavorable cases.

As a result of a combined laboratory and clinical study I wish to emphasize the following points:

1. In over one-half of the operative cases the growth has extended beyond the uterus at the time of the operation and the recurrence after operation is usually (possibly always) but a continuation of a growth not entirely removed.

2. Certain types are more malignant than others. In my experience the inverting type arising in the portio vaginalis is the most frequent and most malignant variety, the same type arising from the mucosa of the cervical canal is less frequent and less malignant, while the everting type is still less frequent and malignant. As was stated in the beginning of the paper, carcinoma of the body is so much less frequent and less malignant than cervical cancer that it was not further considered in this paper.

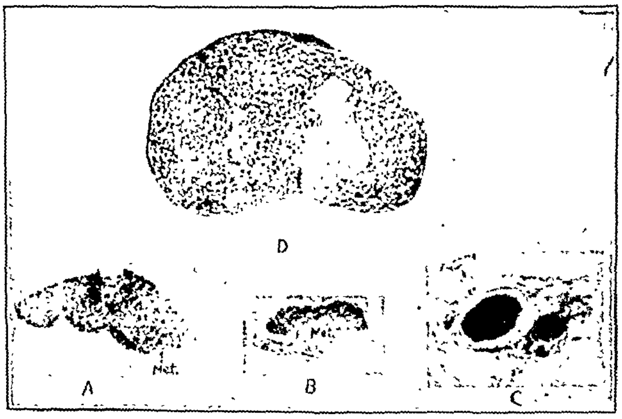

Fig. 20.—Met[illegible] in pelvic and abdominal lymph-nodes showing [illegible] on part of nodes. From photograph of stain[illegible] nodes (× 1), operative specimens. A, early metastasis in the proximal pole of an iliac node. The node is apparently hypertrophied, but there is no reaction in the tissues about it. B, metastasis in a similar node. Over half of the node has been replaced by cancer, yet the node is apparently but very little increased in size and the tissues about it are unaltered. C, another metastasis showing that the cancer has invaded the surrounding tissues and these are markedly thickened. D, lumbar node diffusely invaded by cancer and greatly enlarged. There was no reaction on the part of the surrounding tissues.

3. The reaction on the part of the tissues invaded by cancer varies greatly.
   A. Sometimes there is very little, thus suggesting that it is unable to resist its invasion.
   B. At other times there is a marked increase in connective tissue about the cancer which may retard its growth.
   C. The lymph-nodes of the parametrium are sometimes increased in size and new ones are apparently formed. These may check metastases.
4. We are unable to judge definitely of the extent of the disease before the operation.
   A. The growth may appear to be very early and yet metastases may be present (especially true of the inverting type).
   B. The primary growth may seem very extensive and yet be entirely local.
   C. A normal-feeling parametrium does not exclude the possibility of cancer in its tissues.
   D. The induration felt in the parametrium is not always due to carcinoma.
   E. For the above reasons an apparently favorable case may prove unfavorable and *vice versa.* Exploratory operations are sometimes justifiable.

5. The most radical operation consistent with a "permissible primary mortality" is indicated, especially in the early cases. The first requisite of this operation is a wide excision of the parametrium. The routine removal of the pelvic lymph-nodes is still, in my mind, a debatable procedure with our present technic. If the nodes have not been removed, cancer has been left behind in at least one-third and possibly in over half of our operative cases. Against their removal it may be said that it increases the primary mortality and that patients in whom metastases have not yet occurred will die from the operation who would have survived had this not been done. It is also impossible to remove at operation all the lymph-nodes which may be infected, and at best we must be satisfied with their incomplete removal. The more thorough and complete the operation the greater the chance for curing the patient and for these reasons we should do the most thorough operation which we believe that each individual patient will stand.

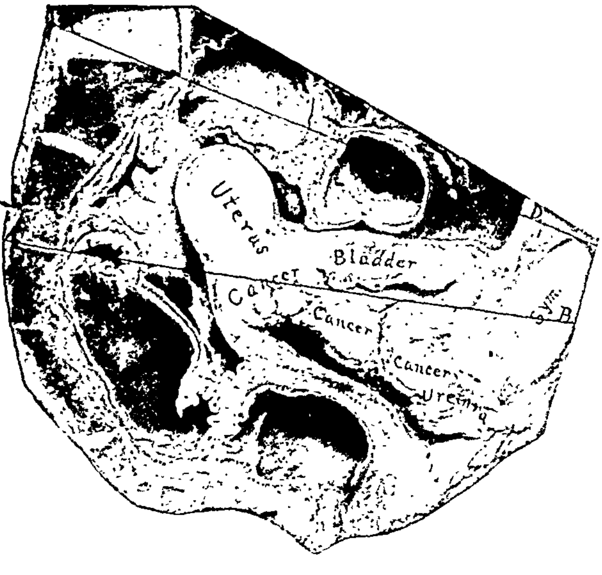

Fig. 21.—Advanced cancer of the cervix with extensive involvement of the bladder and resulting vesicovaginal fistula (patient only 25 years of age). From photograph of median sagittal section of the pelvis. Line A-B indicates the plane at which the section illustrated in the following figure was taken.

6. Extensive operations in advanced cases are usually unjustifiable and great care should be exercised in the choice of the border-line cases in which operation should be done.

7. *The most important aid to the treatment of this condition is an earlier diagnosis.*

8. An earlier diagnosis could have been made in the majority of our cases. Sometimes symptoms referable to the growth do not arise until late in the course of the disease, but in *over half* of the *forty-one operative cases* referred to in this communication there was a history of *neglected uterine bleeding* of *over six months' duration.*

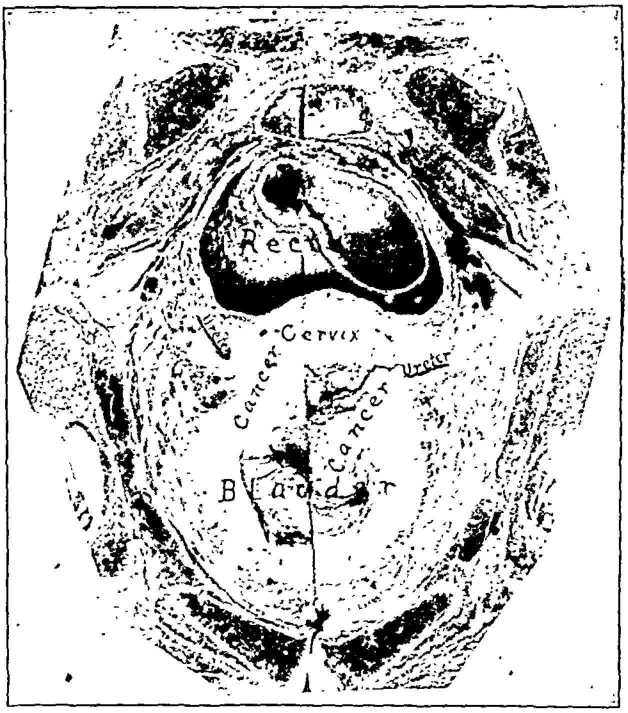

Fig. 22.—Cross-section of the pelvis through the plane A-B in Figure 21. Wires are inserted in the lumina of both ureters. The one in the right ureter can be seen protruding into the bladder at the margin of the vesicovaginal fistula. The ureteral walls are invaded by cancer, causing hydro-ureter, hydronephrosis with resulting renal insufficiency and death.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SAMPSON, JACOBSON, RIES, AND FREDERICK, CONSTITUTING A SYMPOSIUM ON CARCINOMA OF THE UTERUS

Dr. George Gellhorn, St. Louis: The papers have presented so many phases of the subject that I shall confine my remarks to the paper presented by Dr. Frederick. Dr. Frederick has spoken of the cautery for two different purposes, if I understood him correctly; one for the purpose of radically curing a cancer, and the other for the purpose of treating inoperable cases of uterine cancer. I wish to refer only to the *second use of the cautery. I can* confirm the statement of Dr. Frederick that the thermocautery will relieve the symptoms for a short time but I must insist that any lasting good effect can be accomplished only by a methodical repetition of its use. Only if it be applied every four weeks for six or seven months *in succession* is a good result likely to occur. Unfortunately the patients do not return for such repetition; at least, my experience has been that a patient would come a second time, but I have yet to see the patient who would come back to the hospital for a third cauterization, so that the good effect of the cautery remains more or less theoretical. The majority of inoperable cases after all are in the hands of the general practitioner and the cautery is hardly an appliance of general practice. The odor of the profuse discharge and the hemorrhage are so overwhelming that the practitioner is practically helpless. The acetone method is especially suited to his needs. Regarding the criticism made by Dr. Frederick, I would state that the penetrating effect of acetone seems to be very great. From our laboratory knowledge we know that it deeply penetrates dead tissues, and it is only logical to suppose that the penetration in living tissue is even more quick. Two and a half months ago I curetted an inoperable cancer and after the excochleation the opening was large enough to admit a speculum about two inches in diameter. On Monday last I only succeeded in introducing a very small vaginal nozzle into the crater in order to pour the acetone in. This would show that the penetration is sufficiently deep and the resulting formation of scar tissue satisfactory. Of course, these patients all die, but we are able to keep them alive from one to two years and in comparative comfort. One of our patients in the St. Louis Skin and Cancer Hospital who had been declared inoperable by Wertheim when he was in St. Louis occupied her position as scrub-woman in a downtown office a year after having been declared inoperable, earning a livelihood for herself and family. The woman died almost two years after the first treatment and might have lived longer except that the absence of symptoms induced her to stay away from our treatment. The acetone treatment is a very simple method and can be used in the hands of the general practitioner who has not hospital facilities. The lesion should always first be curetted very thoroughly. I use a large spoon devised by Dr. Boldt. After curetting, I insert a Ferguson speculum into the bleeding wound and then pour the acetone into it. In all the cases that we have observed the bleeding has been checked. We use the pure acetone, a chemical that is used for the wholesale preparation of chloroform, and also in machine-shops for dissolving fats. It is poured into the speculum and left there for fifteen or thirty minutes. It is then permitted to run out, a piece of gauze soaked in the acetone is inserted into the wound and the speculum is removed. The patient is returned to bed, which she may leave the next day. Regular treatment is begun five days after this preliminary treatment and applied three times a week for several weeks. As the symptoms improve we gradually lengthen the intervals. I have again and again tried to curette these lesions after five or six or seven weeks of treatment and I have hardly ever succeeded as the walls are hard and smooth in contradistinction to the spongy character of the original excrescences. The subsidence of the symptoms of the patient, aside from the relief of hemorrhage, odor and discharge, is very marked. Perhaps owing to its chemical relationship to chloroform the acetone seems to have an anesthetic effect on the patient. In many cases the pain disappears. When the cancer has reached the nerves, of course, the acetone does not relieve pain. In those cases we have to resort to morphin. Certainly, however, the subjective symptoms of cancer have been greatly relieved by this method, and we have, after trying various other methods, always returned to this and shall continue to use it until we find something better. At that time, however, we shall be the very first ones to adopt the better method.

Dr. Reuben Peterson, Ann Arbor, Mich.: I have been much interested in the Ries operation for the radical cure of cancer of the uterus ever since Dr. Ries brought forward his operation in 1895. I had the good fortune to be associated with him shortly after that time in the Chicago Post-Graduate Hospital. I can only praise the thorough work which Dr. Ries has done with his operation and the consistency with which he has followed along one line. But I differ with Dr. Ries because of my own experience. We are not partial to any one operation unless it will save the most patients. My experience with the radical operation for cancer of the uterus as I tried to carry it out according to Dr. Ries' directions, gave me such a high mortality that I concluded that if I could do a less radical operation and save more lives, the women at least would be better off. I agree with Dr. Ries that statistics based on less than 100 cases do not count for much. Yet, right after that he gives his own statistics with much less than that number. We must talk about our results for that is what we have to go on. My mortality for the first fourteen cases was 42 per cent. That is a shocking mortality to anybody who is doing abdominal work. Out of the seven patients that have been operated on for five years there are four alive. Two of these had carcinoma of the fundus, which Dr. Ries very properly says are in another category. Still, theirs are cancer cases and in my hands prior to this abdominal operation I did not save such patients. You say it is easy to save them, but I didn't. I remember only one patient whom I operated on for carcinoma of the body that I saved by the old method. So setting aside, if you please, the two cases of carcinoma of the fundus I have two patients out of seven to my credit who have lived beyond five years. Since that time I have been doing less radical work, not making such extensive dissection of the glandular tissue as Dr. Ries recommends. My primary mortality is much better, as of course, he will say it should be. The operation, even when one does not dissect out the glands, is a terrible one and I agree with him it is the worst we have to perform. In my last twenty-three cases I lost but one patient. Some have lived for over three years. I do not know whether they are going to live beyond five years, but I know that the mortality is much more satisfactory, and taking that as a whole I think I shall be better off as far as saving these women is concerned than if I did the radical procedure.

Statistics improve with the operator's experience. I can now see my mistakes with my first cases. I have had the same experience that Dr. Ries and others have spoken of, that when you begin with this operation you have an idea that when the uterus seems to be firmly fixed in the pelvis the patient is beyond hope. I quite agree with the essayist when he says that every operation should be an exploratory laparotomy. In some of the cases it is a matter of surprise to find that the induration to one or the other side of the cervix is really inflammatory tissue and not carcinomatous.

There is a certain class of patients whom I exclude from this radical operation irrespective of the extent of their disease because the primary mortality is so great. Such patients are the excessively fat women. They die from the operation almost invariably and I think that I shall do better by them in carrying out the palliative treatment because in my hands, at least, they do not stand the ghost of a chance of surviving with the radical operation.

Dr. A. Goldspohn, Chicago: I also admire the radical work which Dr. Ries has done; but when we consider the results of very extensive autopsies in uterine cancer cases, particularly those made by Schauta, which show that in only about one-fourth of all the cancer cases the glandular involvement is located only in or near the pelvis, so that thorough operation and search for the glands is rational, we feel that extreme searching for glands is irrational and disappointing. We all know the extensive research work which Schauta has done in some eleven or twelve thousand post-mortem examinations of glands. The conclusion of the matter is that if these ideas of thorough extirpation are to be actually followed, then the operation, which consists in eliminating the human trunk, as Dr. Ries has mentioned, would be necessary.

In the majority of cases the metastatic glands are located in both the upper and the lower parts of the abdominal cavity. In a small proportion they are in the upper part only. In all of these the extreme search for glands means the cutting short of many lives by unwise operating, for no good reason. Since recurrence most commonly takes place in the cicatrix of the amputated vagina a very liberal exsection here is called for. A procedure which I like consists in doing an abdominal hysterectomy with a moderate search for glands. Take out the uterus thoroughly with the adnexa and broad ligaments as closely up to the bony limits as possible. Get the entire uterus free from everything except the vagina. Dissect the upper part of the vagina also from the connective tissue area.

Then tuck the whole uterus with the inverted vagina down into the small pelvis. Close over the small pelvis by peritoneum from different directions at about the level between the true and false pelvis and close the abdomen. Then go to the vagina and take out the uterus, *taking with it the upper* portion of the vagina more thoroughly and safely against bleeding than can be done from above. This method has given me rather satisfactory results. Repeated cauterization is also followed by good results, in the inoperable cases. I have seen a number of such patients live quite comfortably for three and four years.

The excellent views of Dr. Sampson have shown what needs to be emphasized—that in the majority of cases cancer of the uterus begins in the upper part of the cervix. Germans have shown that it comes chiefly from retention cysts, *i. e.*, the Nabothian follicles superficially and deeply seated up in the cervical canal. These vulnerable and dangerous glands can mostly be removed in amputations of the cervix, when any operation for lacerated or pathologic cervix is indicated. Such amputation, then, and not the Emmet trachelorrhaphy should be done. As a prophylactic for cancer it will do much more good than the heroic search for glands with the attendant mortality in attempts at cure.

Dr. Eliza M. Mosher, Brooklyn, N. Y.: The small number of patients with cancer of the uterus who are cured emphasizes what has been said here and for years past on the importance of instructing women in reference to the symptoms and early signs of this disease. Even though we realize the tremendous importance of it, we cannot do very much in our offices in the way of prevention. You will be glad to hear that the committee appointed last year by the House of Delegates, termed the "Public Health Education Committee" has been able during this year, in New York and Brooklyn alone, to give careful instruction on this subject to more than a thousand women, through these lectures. Throughout the United States the same teaching is being carried on, and we are hoping that the number of cases of late cancer will be lessened materially during the next five years through the work of this committee.

Dr. Horace G. Wetherill, Denver: In regard to the work to which Dr. Mosher has just referred, as your representative in the House of Delegates, I may say that this committee made its report to the House of Delegates yesterday and it was a very comprehensive, dignified and tactful report, showing excellent work on the part of the committee. So far as may be in our power this Section should endorse and support this educational committee.

Dr. J. H. Jacobson, Toledo: Just a word in reference to the statistics that I have shown. I realize full well that everything which Dr. Ries has said is true; that it is very difficult to get statistics in which a genuine radical abdominal operation has been performed, and that it is impossible to get statistics of operations performed as thoroughly as Dr. Ries does them. I was prompted to make this statistical study because the operations ordinarily performed for the cure of cancer uteri, have appeared to me only palliative at best. If we expect to make any advance in this work we must make our operations more radical. I admire Dr. Ries' work very much and have only words of praise for it. Wertheim's results are the best up to the present time. I hope that this statistical study will help operators to adopt this operation which has a higher percentage of permanent and absolute cures than any other.

Dr. Emil Ries, Chicago: Wertheim removes a few glands from a patient and gives a low percentage of carcinoma in the glands. That does not prove anything. If anybody removes glands extensively, as some have done, the number of cases in which carcinoma is found in the glands is about 60 per cent. That means that two out of three women have cancer in their glands when they have carcinoma of the cervix. You take the chances on the 60 per cent. if your main purpose is a large primary recovery. You can do so. You are the physicians and it is for you to say, only be honest with the patient. Tell her what you can do. Wertheim said in Chicago that all the patients in whom he found carcinoma in the glands had recurrence. Why? Because he did not take out enough. The so-called recurrence in the scar in the vagina is not new disease. It is only the consequence of insufficient operation. The operation did not go far enough.

Just a word in regard to Schauta's report. Dr. Goldspohn did not tell you all about it. He did not tell that Schauta's work has been refuted by Mackenrodt. Schauta's paper shows that he examined from six to ten glands in each case, when the smallest number should be approximately twenty. As he overlooks the other fourteen the work of Schauta is absolutely useless. If you have no conception of the meaning of examining glands for carcinoma, try it in one case. I have examined 1,200 sections from one case without finding a single bit of carcinoma, while the next 200 sections were full of it. Anybody not willing to do such work should not talk about it.

REPAIR OF CEMENTUM

IN RELATION TO THE TREATMENT OF ALVEOLITIS *

M. H. FLETCHER, D.D.S., M.D., M.S.
CINCINNATI

Many years ago Dr. William H. Atkinson of New York endeavored to induce repair in the sockets of teeth which were deeply affected with alveolitis, by sponge-grafting, a method of surgery then in vogue.

At that time, from 1885 to 1890, the discussion of the etiology and treatment of the diseases of the sockets of the teeth, was at a very high pitch, the name "pyorrhea alveolaris" being then, as it is now, strongly attacked by many as inadequate and misleading. The etiology and pathology and the question whether it should be considered a local or a constitutional disease were also hotly discussed. Since then the methods of treatment have changed very little.

If, however, we knew all the causes and the actual tissues most involved in the repair we should better know how to treat the disease intelligently, and have a greater number of recoveries and those more complete. It is hoped the facts here to be presented may do something toward this desired end.

The wonderful recuperative powers of cementum have recently been brought to my attention with great force, and the result has been active research regarding this tissue. Such literature as I have been able to find about cementum and its relation to human teeth is confined to mere descriptions of its locality and histology but not of its necessities and uses.

Cementum is the bond of union between the teeth and bone, and seems much like bone in its recuperative and reparative powers. For one to know that under proper environment the cementum may and will reform, when it has been removed from a root or cut into grooves, should be a fact of much moment and value to those interested in the treatment of diseases of the sockets of the teeth and the surrounding tissues. The incident which encourages me to believe this to be true is as follows:

A year or more ago a young woman of 19 came to me for treatment. About four years previously she had lost the crown of the first lower molar on the right, by an attempt to have the tooth extracted. The crown had been broken at an angle quite below the neck so that the soft tissues, when they began to repair, lapped partially over the broken surface. On close examination the soft tissues were found to be adherent to the broken surface of dentin. This being very unusual, the roots were carefully extracted, the lump of soft tissue still adhering to the broken surface. The anterior root was decalcified, with some of the soft tissue still adherent. Sections were made from the root and adherent tissue (Fig. 1). It was found that the cementum had not only grown over and become adherent to the broken surface of the dentin but had partly filled the canal of one root from the top down, something after the manner of the growth of secondary dentin induced by abrasion from mastication. The formative membrane was still adherent to these surfaces (Fig. 2). The cementum was very much thicker about the end of this root than is normal in teeth of this age (Fig. 3). This, no doubt, was due to *the disturbance brought about by* the attempt to extract the tooth. Nodules of cementum on the roots of the teeth are very common in older persons and are called exostoses, but to find cementum formed on and adherent to a broken surface of ivory of a human tooth, much as it is on the roots, is a new phenomenon in biology to me, and is of so much moment to those interested in the treatment of alveolitis that I have spent much time in investigating the subject.

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* Read in the Section on Stomatology of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

The specimens examined seem to show that if environment is made perfect in treating deep-seated cases of alveolitis we may have a normal restoration of tissue to a great extent if not to a full amount. In the language of the general surgeon, we can expect to have a healthy useful stump if we cannot have a completed organ.

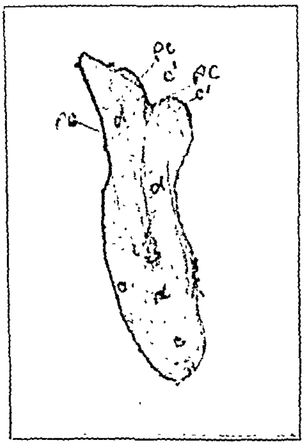


Fig. 1.—Section of anterior root of first molar (× 3) ; d, dentin; c, cementum growing on broken surface of dentin; p, c, pericementum; p, remnants of pulp chamber.

We all know numbers of cases in which teeth that, under treatment, have seemed hopelessly loose, in time have become firm and useful for many years; and I have wished many times that we might know just what the process of repair was. This one case of excessive growth and unusual attachment of the cementum to the broken surface of dentin teaches what this process of repair can be, and I am now convinced that it is the cementum on which we largely rely for the repair in these cases, it being the underlying factor of attachment. The specimens show excessive growth of cementum which must have been the result of some stimulating environment.

Cementum is of mesoblastic origin like dentin and bone; but bone seems to be one step too far away from dentin in physical character for perfect union between them to be possible, so that in the growth of teeth in vertebrate animals the cementum seems to have been a development by nature to supply the intermediate link as a bond of union between tooth and bone. Cementum is the natural product of the pericemental layer of the periosteum of the socket, and does not exist until the root of the tooth is formed. The presence of the dentin of the root in proximity to the periosteum seems to stimulate the layer of cells next to the dentin to bring into action that unknown law, the differentiation of cells, and cementum is the result. Thus it is seen that the periosteum of the socket is remarkable in that it forms bone on one side and cementum on the other, and at the same time acts as a cushion against the forces of mastication.

Since we know by the specimens that this membrane is capable of what seems unusual things, we can set our goal at having Nature reproduce much of the lost attachment in diseased sockets. The necessary conditions to produce this result would mean that we must have live tissue to live tissue as is done in setting a broken bone. Sterile blood-clot must fill the space between. To produce this condition the roots of the tooth must be surgically free from foreign matter. They can be cleaned by scraping and polishing, or, better, by planing the roots off with instruments like Thompkin's, Hartzells' or Carr's sets, which leave live tissue on the tooth side.

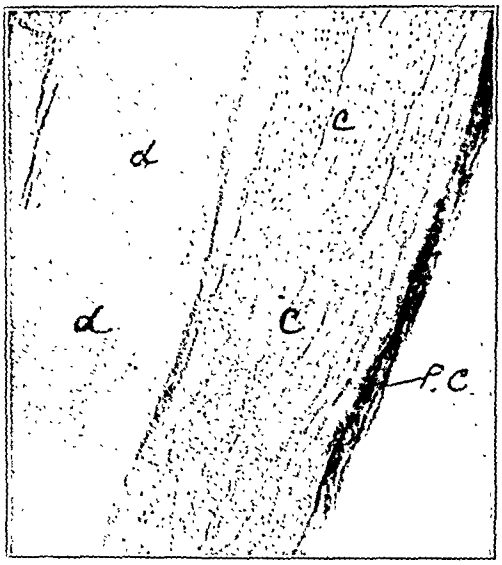


Fig. 2.—Normal cementum of the root (× 100) to compare with the cementum found on broken dentin and in root canal; d, dentin; c, cementum; p c, pericementum.

All dead or diseased bone or other tissue should next be removed from the socket; this leaves live bone tissue on the other side opposing the live cementum, and if the wound be kept sterile by gently washing away the disorganized blood-clot at proper times, what would seem perfect conditions for repair will be produced, the space not being large enough to demand anything like sponge-grafting.

This condition no doubt existed in the case of repair here presented, that is, a broken surface of live dentin on one side and healthy cementum-producing tissue on the other side in close proximity, so that it could grow over the broken surface of dentin with the results shown. The cementum-producing membrane may come from above or below in the socket or from both directions.

If pus is found forming again, as it often is, either more thorough curetting or escharotic germicides such as pure lactic acid or iodin should be resorted to, in order to have Nature throw the strongest possible army of repair into the neighborhood. She will renew the effort, as often as called on, by making frequent fresh wounds in the socket. The principle is the same as that according to which setons were formerly drawn daily through a wound; but daily is too often in these cases. This treatment should fall short of destroying any repair which has already begun.

If the tissues are put and kept in normal condition for repair, as above described, healing will take place in due time, that is, in from two or four months, or in whatever length of time it would naturally take such wounds to heal—possibly a year or more in some cases. But the physician must know when the tissues are in proper condition for repair and how to produce them. It is understood that many patients do not come for treatment until they are beyond recovery.

It seems to me that at present we proceed in the treatment of alveolitis without any definite idea of what processes are called into play in the healing; but we go ahead and do something; if the patient recovers, well and good; if not, we do not know why nor do we know what we should do in order to have Nature do the repairing which she is always trying to do and always will do if the physician is bright enough to know how to remove the hindrance in her way. Thus encouraged, Nature will accomplish what may seem wonders, but what to her is mere fulfilment of her own laws.

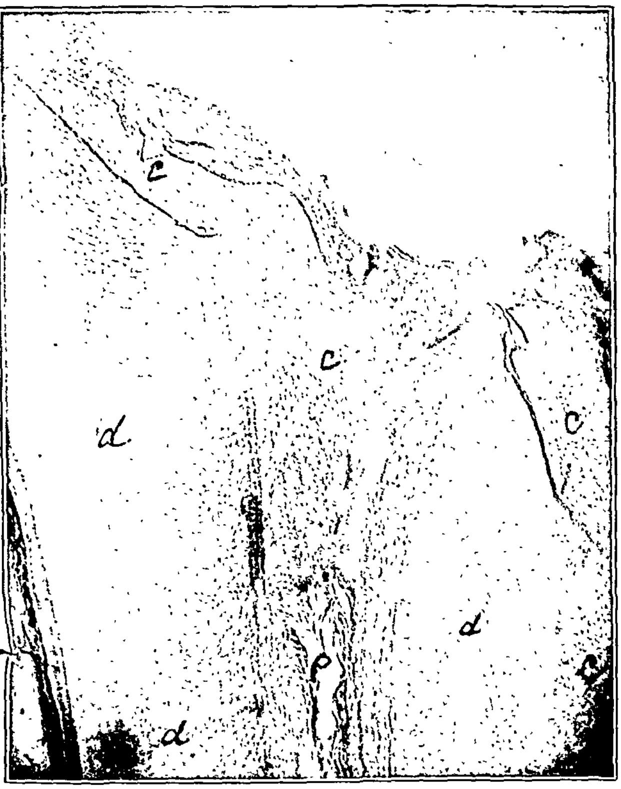


Fig. 3.—Top of Section 1 (× 75) showing cementum growing up over the side and onto broken dentin and into pulp canal: d, detin; c, cementum; p c, remnants of pericementum; p, remnants of pulp chamber.

The facts as displayed in this case of repair certainly show a definite and encouraging goal for which to work and this goal is, I believe, the proper one; that is, we may look forward to the activity and reproductive power of cementum to form a new bond of union, knowing that this union will occur if the environment is made right. In bone surgery, it is not thought that the periosteum reproduces itself by growing edgewise to any great extent, but, surgically speaking, the reformation of enough periosteum and pericementum to line the whole tooth socket would not be considered a large amount to be reproduced. In cases of amputation of the apex of roots it no doubt is due to the cementum which covers the freshly cut surface that makes it possible for the tissues to retain the tooth in health instead of expelling it. Where roots may have been fractured repair may take place by the crevice being filled with cementum just as broken bone is cemented together by the fracture being filled with new bone.

Often arteriosclerosis, auto-intoxications or other systemic disorders hinder the healing of these wounds in the same manner as they hinder the healing of wounds in other parts of the body. If these conditions exist, they should be looked after either by the operator or the family physician, since the condition of the blood and blood-vessels have much to do with the susceptibility of the patients to alveolitis and to other diseases, as well as with the tendency to repair or to remain chronically diseased. So the systemic conditions must be looked after as well as those that are local.

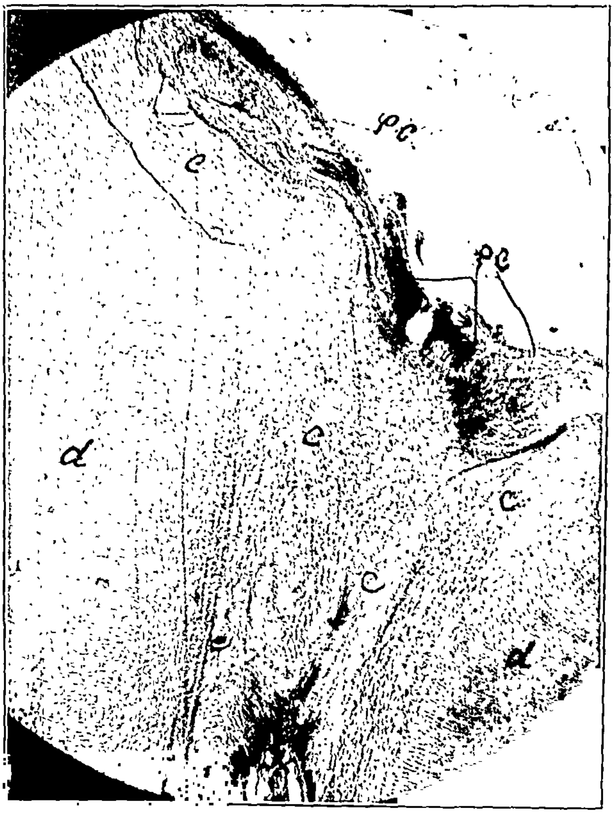


Fig. 4.—Higher magnification of Figure 3 (× 100), showing more plainly the character of tissue; d, dentin; c, cementum; p c, remnants of pericementum.

Many patients suffering from necrotic and suppurative alveolitis are reported to have recovered under systemic treatment, but always after the deposits have been removed from the roots. From my point of view such patients recover on the same principle that tuberculous and other patients recover, that is, through such improvement in the patient's health by means of medical or climatic assistance that the system is equipped with sufficient additional material and vigor to overbalance and finally overcome the disease.

11 East Seventh Street.

ABSTRACT OF DISCUSSION

Dr. Frederick Noyes, Chicago: For a long time I have been trying to teach that cementum was the means of attaching the surrounding tissues to the tooth, and that normal cementum continues to be formed as long as the tooth remains in function. A tooth that has just erupted has a few layers of cementum over the root. One that has been in use for a long life has a great many. Further, I have been trying to convey the idea that the tooth is continually moving as long as it is in function, and with every movement the attachment of the fibers to its cementum is cut off and they are reattached by the formation of a new layer of cementum. I think Dr. Fletcher will agree with me that these things which are physiologic facts occurring in the formation of every tooth are of prime importance in the consideration of this specimen, and that they are the foundation of the treatment of the roots of teeth in alveolitis.

The problem, then, which is presented to the practitioner in the treatment, for instance, of a deep pocket on the labial surface of the lower incisor where the normal attachment has been removed, is that of bringing the tissues in physiologic contact, and that is very far from an easy thing to do. If physiologic conditions can be obtained, the reattachment of the soft tissues to the surface of the root is the only logical thing to be expected. I would like to ask Dr. Fletcher if any of those broken fragments of dentin showed any formation of cementum?

Dr. H. M. Fletcher: They are enclosed in cement, and yet in most of them you can see an attempt at absorption.

Dr. Noyes: That question was suggested to me from the emphasis of Dr. Fletcher on its being living dentin. I am not so certain on that point. That is that the formation of cementum continues on the surface of the root from which pulp has been removed, and moreover, formation of cementum continues on fragments of diseased roots in which there is no living dentin. For instance, I saw a case a few days ago, in which a tooth which had lost almost all of its peri-dental membrane, had become turned over sideways and formation of new cementum along the new under surface had occurred. Any damage to the outer surface of the dentin is always repaired by the formation of a new layer of cementum.

No surgeon ever closes a wound; all he does is to control conditions so that the living tissues can close the wound, and the thing that has led to the development of modern surgery has been a knowledge of the conditions of life and an ability to control cell activity. The same way in this field. No dentist can ever reattach the tissues to the surface of the root, but if he knows enough about the vital conditions and can control them the tissues may be able to carry out their activities, and they may reattach themselves in their normal position.

Dr. G. V. I. Brown, Milwaukee, Wis.: The subject opens up vast possibilities in our treatment of pathologic conditions affecting the cementum and adjacent structures, which if these slides are as they seem, will make it possible to do a great deal more than has ever been attempted before. It is another example of the wonderful versatility that cells display in adapting themselves to adverse conditions which sometimes leads to the production of cells essentially different in their ultimate character from the condition of the original cell. It certainly is new to me to know that cementum would spread itself over a bare surface of dentin, whether living or dead, as this seems to have done. I would like to be a little more certain as to just how far the fibers of the pulp in that tooth had extended themselves, and have no doubt Dr. Fletcher will be able to tell us whether this would be the kind of thing which one could expect regularly from cementum under pathologic conditions, or whether it is merely the outgrowth of pericementum quite similar perhaps to that which we find where we have hypertrophic conditions and polypoid gum tissue, or if it is only an unusual case.

Dr. T. W. Brophy, Chicago: The essayist has brought two very important subjects for consideration; first, the importance of observing the correct nomenclature; and second, the wonderful reproductive powers of Nature. As to etiology, he has not entered into it. However, we have a local condition which is aggravated by lowered vitality of the patient. Anything which decreases the patient's vitality aggravates the disease in this locality the same as anywhere else. Therefore, proper treatment of patients from a systemic point of view should be considered. The work of Nature in depositing cement on this pericementum has been pointed out by the essayist in a manner that explains many of the conditions that we find associated with the teeth that have never been heretofore pointed out. If so, it has escaped my attention. What the essayist has presented here will be very interesting material for the men working along these lines of pathology and histology.

If the pathologic condition has advanced to a point that has left the tooth denuded of pericementum—if there has been considerable destruction of the surrounding bone—though the tooth may be an irritant to the tissues about, in such a case I think the tooth is gone. The essayist has not told us that Nature could reproduce the alveolar process. I have never heard anyone say that could be done. I do not believe it can be done. The greatest mistakes made in treating alveolitis have been in the failure to make diagnoses—to determine to what extent the parts are lost. If the only support of the tooth is gone, the tooth is lost, notwithstanding the fact that it may still be present and adherent to the membranes. It seems to me that where there is doubt, every practitioner should have a skiagraph made in order to be of the greatest service to his patient.

Dr. Eugene S. Talbot, Chicago: This specimen certainly has brought out some beautiful things which will give us material for future study. As to the application of this condition to repair of the alveolar process, etc., I can hardly agree with Dr. Fletcher. There are two fixed conditions, foundation principles, we cannot get around; one, that the alveolar process is only a temporary structure to hold the teeth in place, and as the persons grow older, the process is absorbed; second, that the alveolar process is an end-organ. These two points must always be considered.

In the first place the patient must have been about 17 or 18 years of age. The chances are that such a condition would not be found in an individual who had obtained his growth. After the process has built itself around the tooth, it is simply waiting for an irritation to tear down the alveolar process. This is only a matter of time. If a man live long enough and keep his excretory organs in good condition, the alveolar process, without disease, will gradually absorb, and he will lose his teeth naturally. As I tried to show yesterday, and as Dr. Noyes brought out very beautifully in his pictures, when the matrix is destroyed—the lathing—the fibrous tissue within the alveolar process of the bone cannot possibly be restored under any circumstances. It is only partially restored in other bones of the body needed for the future support of the individual; so that his analogy, to my mind, will not hold good.

Dr. Frederick Noyes, Chicago: There are two points clearly shown in the microsopic specimens that are particularly important. The first is that the broken surface across the end of this root shows first an absorption in the dentin, and then the laying of the cementum on it. In other words, the tissues came into physiologic contact with that dentin, first to absorb it, and then the absorbing cells were replaced by building cells, and the tissue was attached to it. I believe this is important. Second, it is evident that the pulp chamber has been largely obliterated by the formation of dentin by the remains of living pulp in the broken root, and in a hurried examination it is impossible in all places to find the junction between the cementum and that secondarily formed dentin; but I think it is a little misleading to assume that all of that tissue down in the pulp chamber is cementum. It is not. It is at least largely secondary dentin, and the cementum has overlapped on to that at the mouth, but I think it does not cover it entirely, though I would not be positive. In the treatment of these conditions, I believe that the tissues will first lie in contact with that denuded root for the purpose of absorption, and then the absorbing cells will be replaced and forming cells produced. This is an exceedingly important factor.

Dr. William C. Fisher, New York: Does Dr. Fletcher mean to convey the idea from this specimen that he hopes to build by stimulation the cementum body, filling in such spaces as may have been produced by the waste product of alveolitis? And if so, to what point he thinks this can be controlled? In other words, is this a sort of artificial exostosis that he would stimulate?

Dr. M. H. Fletcher, Cincinnati: Dr. Noyes' description of what he saw in the specimens indicates the necessity of putting it properly before you. The only way this can be done is to have you study the specimens through the microscope. If Dr. Noyes had time to look through all the specimens, he would find a few that are perfect, where there is no breaking away of the cementum from the dentin in the process of mounting. The law of repair would make me believe, after all our scraping and polishing of roots, that Nature still puts the root surface in proper condition for reattachment of the bone.

In answer to Dr. Fisher, I think what the cementum does is to reproduce itself on the surface of the root, preparing a surface to which bone may be attached through the periosteum; to what extent I do not think we know. Theoretically, I should say it will cover any place on the root that is in normal contact with healthy periosteum, thus we can at least have what is left in a healthy condition.

In answering Dr. Talbot I would say that it is a well-known fact that an organ which is not continually and normally used is changed to a useful form or position or it disappears, but the alveolar process is constantly in use so long as the teeth are present. I have seen mouths of elderly persons in which there was comparatively no recession of the gums, except where disease from local irritants existed. I do not believe in the idea that the alveolar process is a temporary or transitory organ. It disappears if the teeth are removed, but it will remain so long as the teeth remain without local disease. The permanency of this bone is shown in animals where the teeth are of persistent growth. In the tusks of elephants, the incisors of rodents and all animals that have teeth of persistent growth, the alveolar process, the periosteum and the peri-dental membrane are in perfect health so long as life lasts. I have examined the mouths of many animals, and if I understand the doctor correctly, I do not agree with him that the alveolar process is transitory or weakened excepting by disease. If the gums and bone about the teeth are kept healthy I believe the alveolar process is as permanent as the turbinates or other thin bones connected with the air passages.

Regarding the cementum, it is a law of the construction and attachment of teeth of vertebrates that it exists on the root. I do not believe we as practitioners have attached the importance to his fact that it demands. Such men as John Hunter, Richard Owen and Purkinje are the ones who gave us the best knowledge we have of this tissue, but they were not dentists and could not realize the importance it is to us to-day in the treatment of the diseases of the tooth sockets. We should know more about this tissue and call it into use in our work from the present on. Nature utilizes cementum between plates of enamel for constructing perfect grinders in many animals. The cementum wearing away faster than enamel leaves indentations which form perfect millstones for grinding the rough foods which would not otherwise be digestible.

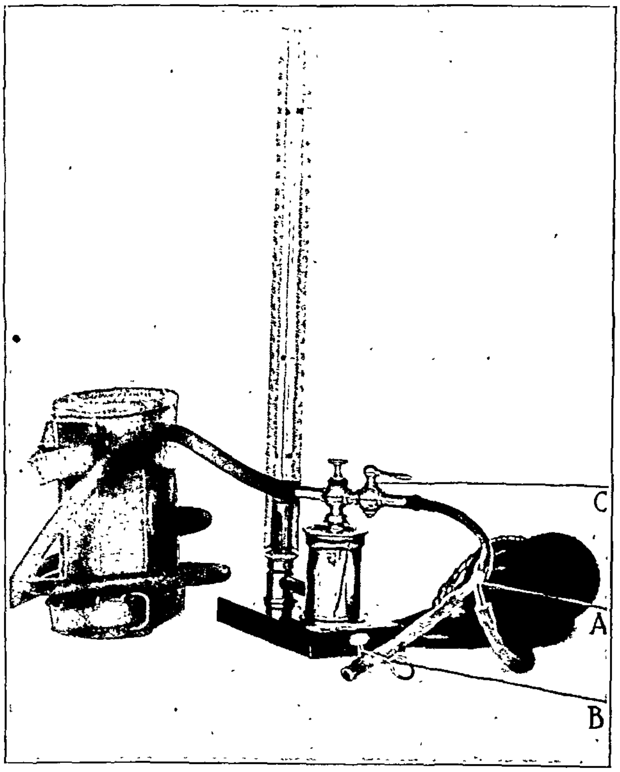
Nasal Chancres.—Chancres of the nostrils and nasal fossæ are rare. Contagion may be direct or indirect. The chancre may be erosive, hypertrophic or ulcerative; the latter form may be mistaken for eczema or impetigo. Rolleston reported an interesting case of nasal chancre which was mistaken for nasal diphtheria, and sent to a fever hospital. In this case the chancre was covered by a diphtheroid membranous deposit; the submaxillary and sternomastoid glands were enlarged and there was an eruption of secondary syphilis on the body which had escaped notice.—C. F. Marshall, in the *Practitioner*.

A SUGGESTION IN THE USE OF THE STANTON SPHYGMOMANOMETER

EDWARD H. GOODMAN, M.D.
PHILADELPHIA

Those who use the Stanton sphygmomanometer a great deal will have experienced the necessity of frequent renewals of the rubber bulb used to inflate the cuff. When employing the instrument, the bulb remains distended throughout the entire blood-pressure determination, and if the pressure be high, the tension is extremely great. It has been my experience, and this is probably the experience of many, to find that the bulb usually lasts but a short time and must be replaced frequently.

To overcome this protracted distention I have devised a simple arrangement whereby the air may be let out of the bulb without affecting the pressure in the cuff. As shown in the illustration, the rubber tube leading to the mercury chamber is cut and a Y-shaped tube (*A*) is interposed. To the third arm of the tube is attached a piece of rubber tubing furnished with a pinch-cock (*B*). When a blood-pressure reading is to be made the cuff is inflated in the usual way, the cock (*C*) turned and the pinch-cock (*B*) opened, allowing the air to escape from the bulb, but in no way affecting the pressure in the arm band.



Suggested improvement in blood-pressure apparatus to avoid continuous pressure on the rubber bulb while taking the reading. A Y tube, *A*, is inserted in the rubber tubing with a short rubber tube closed by a pinch-cock, *B*, on one leg of the Y. After the cuff is inflated the cock, *C*, is closed and the pinch-cock, *B*, opened, releasing the pressure on the bulb.

I am aware that many practitioners prefer to use a Politzer bulb, or an ordinary atomizer bulb with the Stanton instrument, and when this is practiced there is no necessity for the Y-tube. In our work we employ the double bulb, and we have found that this slight but useful modification complicates in nowise the technic and is of distinct advantage in preserving the usefulness of the former.

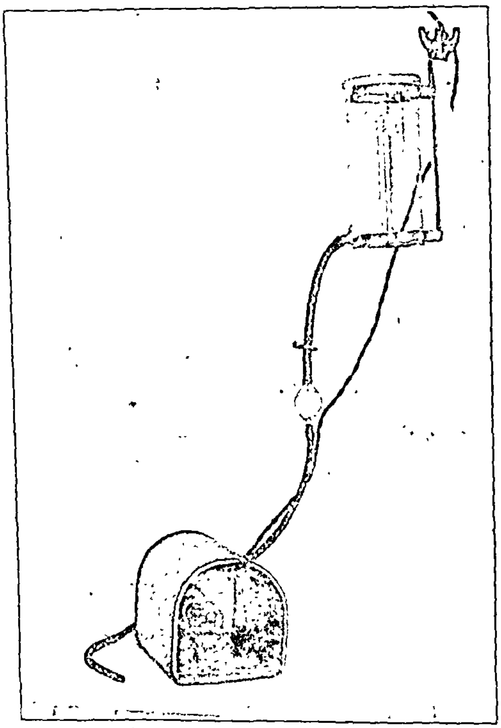
I am uncertain as to whether such a modification has been suggested before, but inquiry of the manufacturers failed to reveal any record of this. If such a modification has been described, however, it is worthy of wider use than is apparently the case at present.

248 South Twenty-First Street.

APPARATUS FOR PROCTOCLYSIS

MAURICE DUANE BIRD, M.D.
MARINETTE, WIS.

The new appliance for heating salt solution for proctoclysis shown in the accompanying illustration, consists of a galvanized iron box covered with asbestos and sole leather, 9 inches long, 6 inches wide, 6 inches at greatest height, being dome-shaped, one end closed, the other open, with an opening ¾-inch in diameter at top of closed end, and a loop ¾-inch in diameter at top of open end, allowing a ½-inch tube to be passed without trouble; an electric lamp socket is fixed on the inside of the closed end and fitted with a 4-candle-power lamp, 12 feet of silk-covered copper wire with plug for attachment to electric light fixture, attached to lamp through the closed end.



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NEW REFLEX SIGNS IN MENINGITIS DIAGNOSIS

W. P. NORTHRUP, M.D.
Professor of Pediatrics, New York University and Bellevue Hospital Medical College; Attending Physician, Presbyterian Hospital
NEW YORK

Brudzinski's "new sign" in meningitis is probably one of the best signs in the diagnosis of this disease, although it does not differentiate between the various forms. It consists of reflex actions manifested in what are called the neck-sign and the leg-sign. It comprises two reflex phenomena, the identical reflex *(réflexe identique)* and the contralateral reflex *(réflexe contralatérale)*.

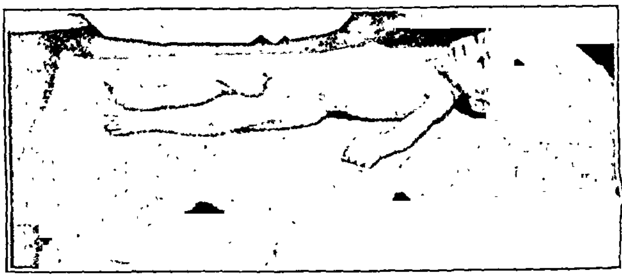

Fig. 1.—Patient with septic meningitis, subsequently fatal; relaxed; comatose.

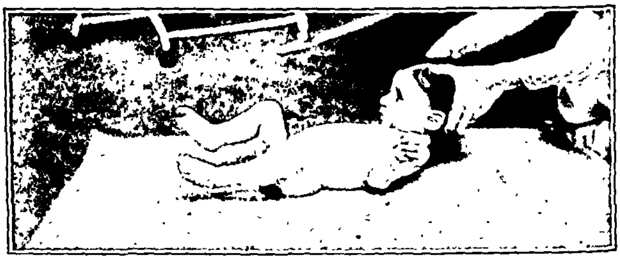

Fig. 2.

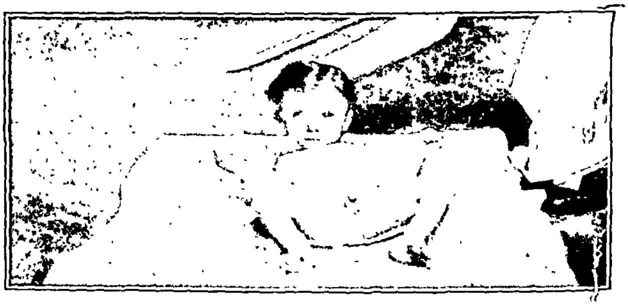

Fig. 3.

Figs. 2 and 3.—Method of eliciting the identical reflex or neck-sign, by flexing head on chest.

The identical reflex is elicited by forcibly flexing the head on the chest, when the arms and legs regularly assume the positions shown in Figures 2 and 3.

The contralateral reflex is produced by passive flexion of one leg, which causes the fellow limb to draw up and remain in the position shown in Figure 4.

Of the two signs the neck-sign is the more constant and is really a refinement of the ordinary "stiff-neck," "rigidity," etc., mentioned in the descriptions of the physical signs in meningitis.

Brudzinski[1] in forty-two cases of meningitis, found the neck-signs *(réflexe identique)* positive in 97 per cent.; the leg-sign *(réflexe contralatérale)* in 66 per cent.; Kernig's sign in 57 per cent, and the Babinski sign in 50 per cent.

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[1] Brudzinski: Arch. de méd. d. enf., 1909, xii, 745.

Morse[2] examined 400 children, "well, or ill with diseases other than meningitis," and his conclusions are that "neither the neck-signs nor the contralateral reflex are present in well children or in those ill with diseases other than diseases of the nervous system; and that they are very seldom met in diseases of the nervous system, outside of meningitis." "Their presence is strong evidence in favor of meningitis: their absence does not rule out meningitis."

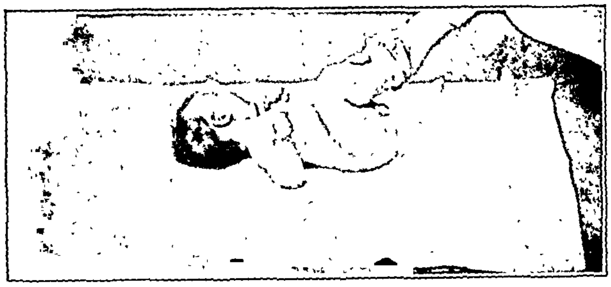


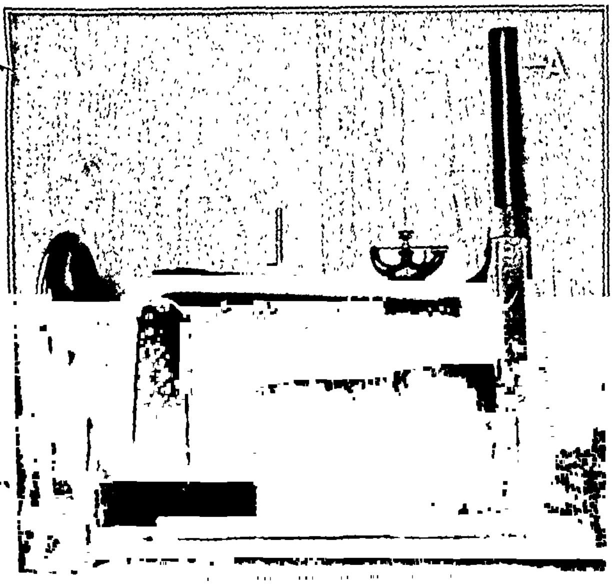
Fig. 4.—Producing contralateral reflex or leg-sign by passive flexion of one leg, causing a reflex flexion of the other leg.

57 East Seventy-Ninth Street.

AN APPARATUS FOR THE PREPARATION OF BACTERIAL SUSPENSIONS*

CLOUGH TURRILL BURNETT, M.D.
BOULDER, COLO.

Anyone who has prepared autogenous vaccines has no doubt found the shaking up of the suspension by hand, as recommended by Wright, a tedious process. There are several mechanical agitators for the emulsification of large quantities of fluid, but I have been unable to find anything well adapted to the preparation of bacterial suspensions as used in vaccine work. In several instances mechanics have made on special order devices for this purpose, but these have been produced at a considerable expense. The device described was made under the direction of Professor Hunter of the College of Engineering, and is reported because of its slight expense and its simplicity.



A second-hand sewing-machine was bought for fifty cents. Much of the machinery was removed, being unnecessary, leaving the wheel and the needle-bar. On the top of the needle-bar was attached a bronze cylinder $\frac{7}{8}$ by $5\frac{1}{2}$ in. as shown in the illustration at A. In this cylinder is placed the sealed glass capsule containing the bacteria in salt solution. The capsule is protected by cotton and held down by a rubber stopper. As the needle-bar oscillates rapidly up and down it carries with it the cylinder and capsule contained in the cylinder. This rapid vertical motion will very quickly break up any clump of germs, producing a uniform suspension in five to ten minutes. This agitator may be propelled by water or by an electric motor. I obtained a water motor for one dollar and fifty cents which furnishes as great a speed as is necessary. The work required on the machine would not cost two dollars, making the entire cost with the motor about four dollars.

THE TREATMENT OF PUERPERAL ECLAMPSIA

FREDRIC J. PLONDKE, B.S., M.D.
Surgeon to St. Joseph's, and Gynecologist to City and County Hospital
ST. PAUL, MINN.

Of all the diseases or pathologic conditions confronting the medical profession, perhaps none has received so much attention as puerperal eclampsia. We learn from early literature that the most competent investigators of all ages have searched for the cause, and equally competent therapeutists have endeavored to apply successful treatment. While these labors have resulted in a measure of success, it must be admitted that even in this enlightened age of medical research we have been unable to determine the exact etiology; and the fact that the most recent statistics still estimate the maternal mortality at from 25 to 35 per cent., and the fetal at 40 to 60 per cent., would indicate that the treatment has been as unsatisfactory as the attempt to find out the cause.

Pathologists are almost unanimous in their belief that the convulsions and concurrent symptoms of puerperal eclampsia are the result of irritation of the liver and kidney cells, and of the cerebral centers, by toxins circulating in and distributed by the blood-current. Taking this for granted, it would seem that treatment based on such a theory, having for its purpose rapid elimination of a part of the toxins, and the neutralization, by dilution or otherwise, of those which remain, would more nearly meet the indications than the slow and uncertain methods heretofore employed.

COMBINED VENESECTION AND INFUSION

With the hope of accomplishing this purpose I have combined the very oldest method, that of venesection, with the comparatively new intravenous infusion of normal salt solution, as follows:

Technic.—Any prominent superficial vein, preferably the median basilic on the anterior surface of the elbow, is selected. Constriction is made above by applying a bandage just tight enough to cause congestion sufficient to make the vein prominent. The parts are carefully cleansed and under local or general anesthesia an incision from 1 to $1\frac{1}{2}$ inches and is of distinct advantage in preserving the usefulness of the former.

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[2] Morse, John Lovett: Arch. Pediat., xxvii, 561.

* From the Laboratory of Bacteriology, University of Colorado.

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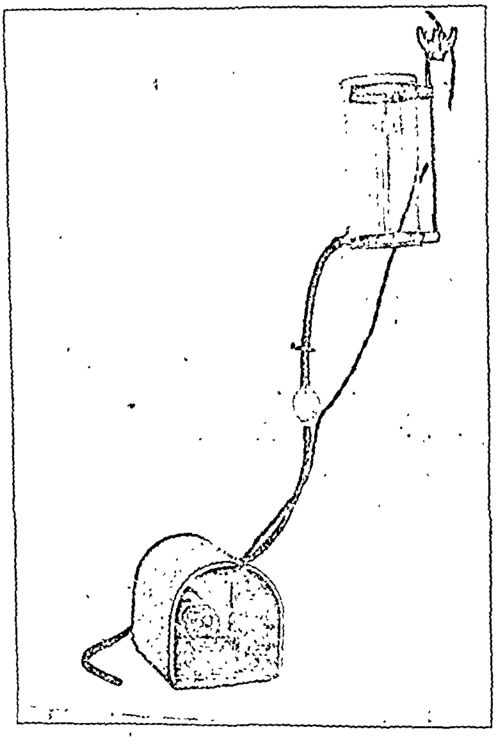

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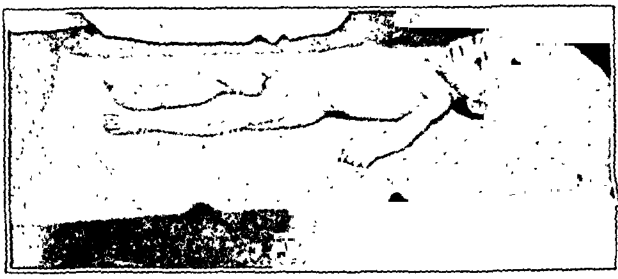

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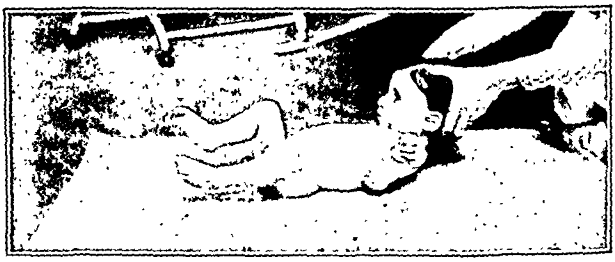

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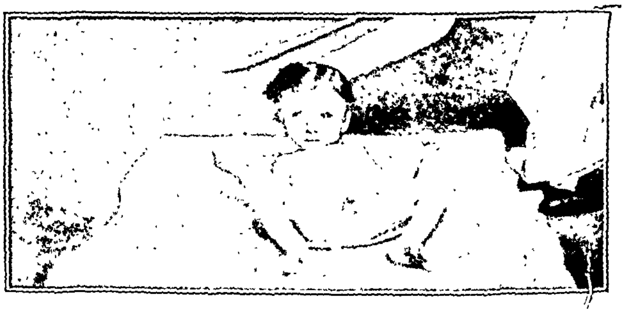

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The identical reflex is elicited by forcibly flexing the head on the chest, when the arms and legs regularly assume the positions shown in Figures 2 and 3.

The contralateral reflex is produced by passive flexion of one leg, which causes the fellow limb to draw up and remain in the position shown in Figure 4.

Of the two signs the neck-sign is the more constant and is really a refinement of the ordinary "stiff-neck," "rigidity," etc., mentioned in the descriptions of the physical signs in meningitis.

Brudzinski[1] in forty-two cases of meningitis, found the neck-signs *(réflexe identique)* positive in 97. per cent.; the leg-sign *(réflexe contralatérale)* in 66 per cent.; Kernig's sign in 57 per cent, and the Babinski sign in 50 per cent.

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[1] Brudzinski: Arch. de méd. d. enf., 1909, xii, 745.

Morse[2] examined 400 children, "well, or ill with diseases other than meningitis," and his conclusions are that "neither the neck-signs nor the contralateral reflex are present in well children or in those ill with diseases other than diseases of the nervous system; and that they are very seldom met in diseases of the nervous system, outside of meningitis." "Their presence is strong evidence in favor of meningitis: their absence does not rule out meningitis."

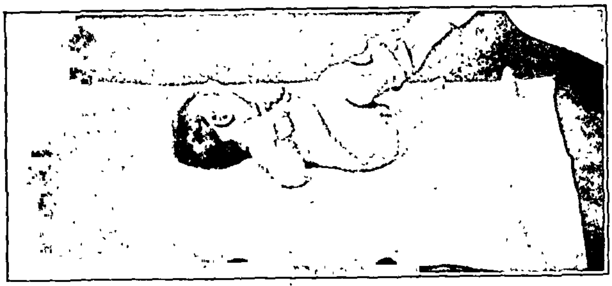
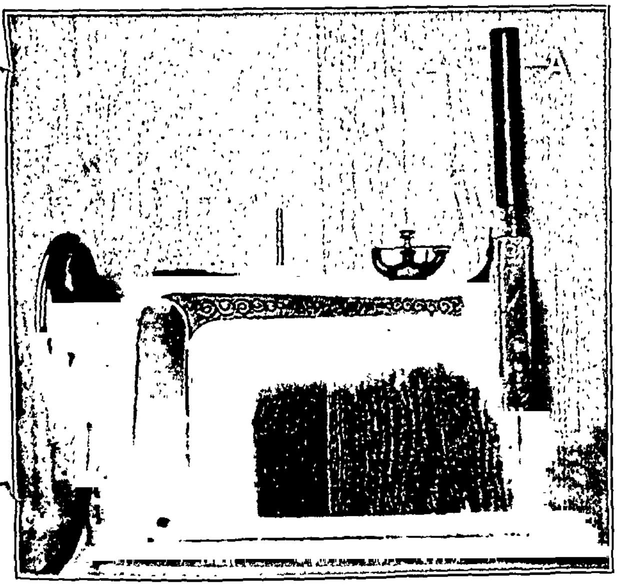


Fig. 4.—Producing contralateral reflex or leg-sign by passive flexion of one leg, causing a reflex flexion of the other leg.

57 East Seventy-Ninth Street.

AN APPARATUS FOR THE PREPARATION OF BACTERIAL SUSPENSIONS *

CLOUGH TURRILL BURNETT, M.D.
BOULDER, COLO.



Anyone who has prepared autogenous vaccines has no doubt found the shaking up of the suspension by hand, as recommended by Wright, a tedious process. There are several mechanical agitators for the emulsification of large quantities of fluid, but I have been unable to find anything well adapted to the preparation of bacterial suspensions as used in vaccine work. In several instances mechanics have made on special order devices for this purpose, but these have been produced at a considerable expense. The device described was made under the direction of Professor Hunter of the College of Engineering, and is reported because of its slight expense and its simplicity.

A second-hand sewing-machine was bought for fifty cents. Much of the machinery was removed, being unnecessary, leaving the wheel and the needle-bar. On the top of the needle-bar was attached a bronze cylinder ⅞ by 5½ in. as shown in the illustration at A. In this cylinder is placed the sealed glass capsule containing the bacteria in salt solution. The capsule is protected by cotton and held down by a rubber stopper. As the needle-bar oscillates rapidly up and down it carries with it the cylinder and capsule contained in the cylinder. This rapid vertical motion will very quickly break up any clump of germs, producing a uniform suspension in five to ten minutes. This agitator may be propelled by water or by an electric motor. I obtained a water motor for one dollar and fifty cents which furnishes as great a speed as is necessary. The work required on the machine would not cost two dollars, making the entire cost with the motor about four dollars.

THE TREATMENT OF PUERPERAL ECLAMPSIA

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Of all the diseases or pathologic conditions confronting the medical profession, perhaps none has received so much attention as puerperal eclampsia. We learn from early literature that the most competent investigators of all ages have searched for the cause, and equally competent therapeutists have endeavored to apply successful treatment. While these labors have resulted in a measure of success, it must be admitted that even in this enlightened age of medical research we have been unable to determine the exact etiology; and the fact that the most recent statistics still estimate the maternal mortality at from 25 to 35 per cent., and the fetal at 40 to 60 per cent., would indicate that the treatment has been as unsatisfactory as the attempt to find out the cause.

Pathologists are almost unanimous in their belief that the convulsions and concurrent symptoms of puerperal eclampsia are the result of irritation of the liver and kidney cells, and of the cerebral centers, by toxins circulating in and distributed by the blood-current. Taking this for granted, it would seem that treatment based on such a theory, having for its purpose rapid elimination of a part of the toxins, and the neutralization, by dilution or otherwise, of those which remain, would more nearly meet the indications than the slow and uncertain methods heretofore employed.

COMBINED VENESECTION AND INFUSION

With the hope of accomplishing this purpose I have combined the very oldest method, that of venesection, with the comparatively new intravenous infusion of normal salt solution, as follows:

Technic.—Any prominent superficial vein, preferably the median basilic on the anterior surface of the elbow, is selected. Constriction is made above by applying a bandage just tight enough to cause congestion sufficient to make the vein prominent. The parts are carefully cleansed and under local or general anesthesia an incision from 1 to 1½ inches in length is made over the long axis of the vein, which is exposed by carefully dissecting it loose from the contiguous tissue. A double ligature of No. 1 or single 0 catgut is then carried under the vein by an aneurysm needle, tissue forceps or other suitable instrument (Fig. 1, *a*) the loop divided (Fig. 1. *b*) and the two ligatures tied around the vein with a single knot at either end of the incision, from ½ to ¾ inches apart (Fig. 2, *a*, *a*). The external surface of the vein is then grasped with a small rat-toothed tissue forceps midway between the two ligatures (Fig. 2, *b*) and divided at this point (Fig. 2, *c*) transversely upward (or downward as desired) about half-way through its circumference. The end of a thin-walled glass cannula, with the largest diameter that will be admitted, is then inserted downward into the distal end of the opening in the vein (Fig. 3, *a*); traction is then made on one end of the ligature (Fig. 3, *b*), when the single knot readily loosens, allowing the cannula to pass through the loop (Fig. 4, *a*); the ligature is again tied, this time around the vein containing the end of the cannula (Fig. 4, *b*) (it is *important that the lumen of the cannula is not too small*, otherwise the blood will coagulate and refuse to flow); the constriction is then removed and another cannula which may be of smaller diameter, attached to a rubber tube coming from a receptacle containing a normal salt solution, is inserted (with the solution slowly escaping from the tube) upward into the other (proximal) end of the opening in the vein (Fig. 4, *c*) in exactly the same manner in which the first tube was introduced. When the desired amount of blood has escaped and a sufficient quantity of salt solution introduced the tubes are carefully withdrawn while the assistant securely tightens the knot, obliterating the vein. The skin wound may be closed by any suture desired.

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[2] Morse, John Lovett: Arch. Pediat., xxvii, 561.

* From the Laboratory of Bacteriology, University of Colorado.

In emergencies, a *fountain syringe*, with the glass tube of an ordinary medicine dropper, or in the absence of the latter the cannula from a small oil-can (such as is found with every *sewing-machine*, automobile *or other machinery*), *may* be used to convey the salt solution into the vein. If catgut is not at hand spool linen or other thread will answer for ligature. The salt solution is prepared by adding a heaping *teaspoonful of* common table-salt to one quart of water. The blood is allowed to escape from the vein by simply loosening the distal ligature as *above described*: the disadvantage being that without the aid of the cannula the blood obscures the field of operation, and it cannot be accurately measured. When the condition of the patient warrants, it is advisable *to allow from 10 to 15* ounces of blood to escape before the introduction of salt solution is begun. The amount of blood withdrawn in my cases ranged from 15 to 32 ounces; the quantity of salt solution introduced varied from 1 to 2 quarts; average, about 40 ounces.

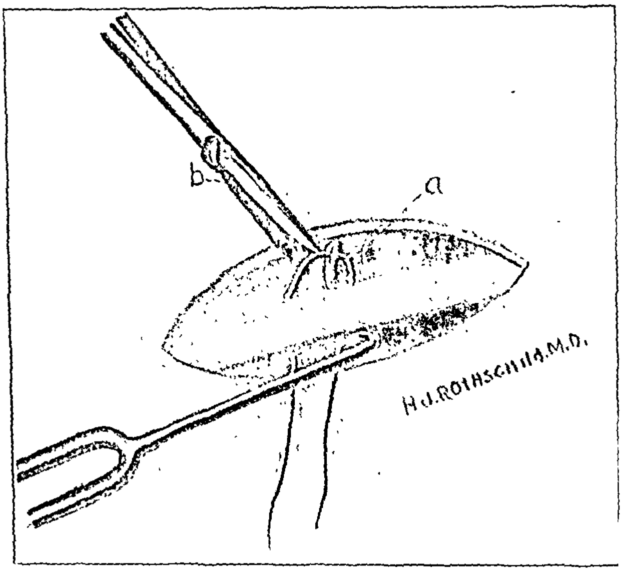

Fig. 1.—Dissection of vein and preparation for venesection; (*a*), ligature and carrier; (*b*), division of loop, forming two ligatures.

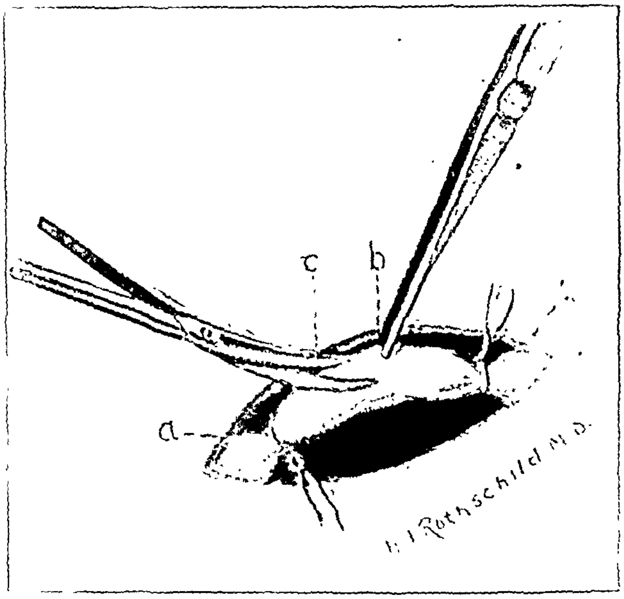

Fig. 2.—Vein with ligatures tied at *a*, ¾ inch apart; at *b*, rat-tooth forceps holding vein; at *c*, diagonal partial section of vein.

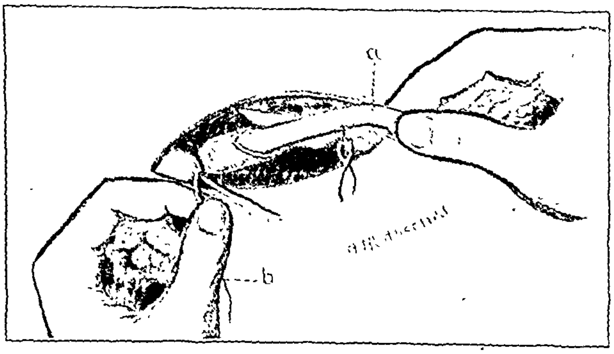

Fig. 3.—Insertion of glass tube in distal portion of cut vein at *a*; at *b*, loosening ligature to permit of insertion of tube.

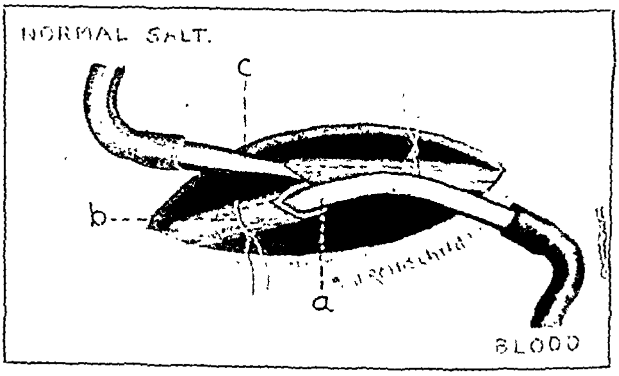

Fig. 4.—Tube (*a*) in distal portion of cut vein, for escape of blood, held by ligature (*b*); *c*, tube in proximal end of vein conveying saline solution.

Nothing new is claimed for this operation, other than the combination of the two methods, viz., the withdrawing of the blood and introduction of salt solution through the same opening at the same time, thus literally washing out the vascular system. It seems reasonable to assume that by the withdrawal of a portion of the surcharged blood the system is relieved of a considerable part of the toxins, and by dilution with salt solution the poison in the remaining blood is rendered at least temporarily less irritating.

I have used this treatment in ten cases, seven puerperal, two of convulsions in chronic nephritis and one of subacute nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear. The following will serve as examples:

Case 1.—Mrs. M., aged 23, primipara, weight about 120 pounds, had a perfectly normal labor of about 4 hours' duration; 1 hour after the child was born the nurse noticed a slight spasm of the muscles of the face; this was followed in a few minutes by a severe convulsion lasting about 2 minutes; this was again followed by another in about 10 minutes; the convulsions increased in severity, becoming more prolonged and appeared at shorter intervals until I saw her about 1½ hours later, when she was in a tonic spasm. She was given ¼ gr. morphin hypodermatically and taken to Bethesda Hospital 3 blocks away and immediately placed on the operating table; by this time the pulse was 150 and very weak. The convulsions were so severe that it was almost impossible to hold the patient on the table until chloroform could be administered. The median basilic vein was opened and 12 ounces of blood withdrawn, when the introduction of salt solution was begun and 10 ounces more of blood allowed to escape. The patient revived from the anesthetic in about 30 minutes, and except for a slight twitching of the facial muscles there was no further signs of convulsions. She left the hospital on the tenth day in as good condition as would be expected to follow an uncomplicated confinement.

Case 2.—Mrs. S., aged 26, primipara, weight 130 pounds, a patient of Dr. A. W. Miller, was sent to my office with a note that she was 8 months pregnant, very anemic, with feet and legs swollen, large quantities of albumin in the urine, etc. On examination the above was confirmed and in addition a large number of granular, hyaline and ephithelial casts were found. The patient was sent to the home of friends with instructions to keep quiet in bed, confine herself to a milk diet, etc. At 3 o'clock the following morning labor began. She was sent to St. Luke's Hospital, where a healthy child was born about 5 hours later after an easy labor, an intern attending. About 5 hours after the delivery she was seized suddenly, without warning, with a terrific convulsion lasting about 6 minutes. I arrived at the hospital about 1 hour after the first attack; during this time the patient had had about five or six convulsions, and appeared absolutely lifeless during the intervals; the pulse was very rapid and almost imperceptible at the wrist. She was taken to the operating room and given chloroform enough to control the convulsion, the median basilic vein was opened, and on account of her serious condition the cannula conveying the salt solution was inserted first and the infusion begun before any blood was allowed to escape. Then about 28 ounces of blood was allowed to flow away without any attempt to insert the larger cannula; about 1½ quarts of salt solution was given; in 10 minutes the pulse was very much improved, being slower and of better volume. The patient was returned to her room, where she regained consciousness in about 3 hours, with no further sign of convulsions. She left the hospital at the end of 2 weeks, and 2 weeks later left for her home in South Dakota in as good health as before the confinement.

Case 3.—Mrs. D., aged 22, weight about 120 pounds, primipara, 7 months pregnant, had been in good health up to Dec. 3, 1909, when a dull headache, which had been present for a week, suddenly developed into an agonizing pain, with blurred vision, intense restlessness, etc. Dr. R. J. Brady of Hastings was called and found the urine almost solid with albumin. He ordered hot packs, saline cathartics, rest, milk diet, etc., which apparently gave slight relief until December 9 at 3 a. m., when he was again called and found the patient in a severe convulsion, it being the fourth she had had in an hour. She was entirely blind, very restless and suffered intensely from headache. She was given ¼ gr. morphin, which was repeated in an hour with practically no relief. As the convulsions increased in severity and her general condition became alarming she was brought to the city by train and taken to St. Joseph's Hospital, where I saw her with Dr. Brady about 3 p. m. She had had about fifty convulsions up to this time and continued to have them every few minutes. She was irrational and intensely restless during the intervals. The whole body was badly swollen, the face almost beyond recognition; pulse was 140 and weak; no sign of fetal life could be detected, but on account of an urgent request from the husband that every effort be made to save the life of the child we abandoned our first intention, that of rapid dilatation or vaginal Cesarean section, and under chloroform anesthesia opened the basilic vein, inserted a cannula, through which about 15 ounces of blood was allowed to escape; another cannula was then inserted as above described and 2 quarts of salt solution introduced; after the infusion of salt solution was begun 17 ounces more of blood was withdrawn, making 32 ounces in all. The patient was returned to her room, where 4 hours later she was semi-conscious and was able to count fingers 2 feet away. The next morning she was perfectly rational and able to recognize her husband at the bedside. She improved steadily, with no further sign of convulsions and left the hospital on the tenth day, remaining in good condition until one month later, when she returned and gave birth to a dead child, which, from its appearance, had been dead for about one month.

No other treatment was employed in these cases except a dose of salts every morning, and a hot vapor bath once daily for a week as a matter of precaution.

The same treatment was employed in the other seven cases, varying only in the amount of blood withdrawn and the quantity of salt solution introduced. In this we were always guided by the condition of the pulse, having an assistant watch it very carefully, while the blood was escaping and, at the first sign of weakness, the infusion of salt solution was begun, with an invariable improvement within a few minutes. It was interesting to note that in each case within 30 seconds from the time that the salt solution was allowed to enter the vein there was a decided change in the blood to a lighter color, indicating dilution.

While I confidently believe this treatment, when properly applied, to be the most successful of any yet employed, it is not intended that it should take the place of, or be used exclusive of all other methods; in many cases, perhaps the majority, in which convulsions appear after seven months, and positively in all cases after eight months, in which other means do not relieve promptly, vaginal Cesarean section, manual or instrumental dilatation, with rapid delivery, should be practiced. I am of the opinion, however, that if the venesection-infusion method is employed first, Nature, with a little assistance in the way of hot packs, hydragogue cathartics, milk diet, rest, etc., will, in most cases, do the rest. At any rate no harm will result, and unless an unnecessary amount of blood is withdrawn the patient will be in better condition to withstand the shock of the more radical procedure, should that become necessary.

In the foregoing an attempt has been made to present a treatment based on rational principles, the advantages of which may possibly be emphasized by a brief comparison with some of the other methods.

As above stated, in cases in which rapid dilatation or vaginal Cesarean section is indicated, i. e., if the woman is at *that period of gestation* when under more normal conditions the child would be expected to survive, the treatment is not a substitute but an adjunct. Thus, if for any reason, as lack of an assistant or the necessary instruments, etc., delivery must be delayed, this treatment can be employed, not alone with the hope of benefit during the temporary delay, but with reasonable assurance that the patient will, as the result of its use, be the better able to undergo the graver operation. Again, it may be done by an assistant at the same time that delivery is being made, and by thus ridding the system of toxins hasten the convalescence and obviate the danger of a continuance of the convulsions after delivery.

Veratrum viride, without doubt the most reliable of all remedies in the so-called expectant treatment, is supposed to act by powerfully depressing the circulation, and thereby bleeding the woman into her own vessels; it is also supposed to reduce the spasm of the renal vessels, causing an increased flow of urine and encouraging perspiration by relieving spasm of the capillaries.

If this theory is correct, the effects are, to an extent, exactly what we hope to obtain by the venesection-infusion method, with the difference that by the latter, instead of the patient being bled into her own vessels and retaining the cause of the trouble within the system, the poisoned blood is withdrawn and replaced with salt solution, thereby promoting diuresis, diaphoresis, etc., and what is most important, in many of these cases, stimulation of the heart and vasomotor centers, which is directly the opposite to the ultimate effect of veratrum viride. It is also worthy of note that while veratrum viride is supposed to control the convulsion by depressing the circulation, the venesection-infusion treatment, although temporarily reducing arterial pressure, finally stimulates the circulation and raises blood-pressure; yet, as demonstrated by my cases, the convulsions cease.

Hot baths, for the purpose of encouraging perspiration, used as a preventive before the convulsions appear, and to guard against recurrence after they have ceased, are unquestionably a valuable aid to other means, but for direct relief of the convulsions they are obviously too slow. It may even be seriously questioned whether by rapidly drawing large quantities of liquid from the blood by a process approaching filtration, an abnormal proportion of the more insoluble products (possibly toxins) are not left behind; thus instead of the toxins being eliminated they become more concentrated, consequently more irritating. The indications for, and the effect of, hydragogue cathartics are practically the same as those of hot baths and these cathartics can be advantageously used at the same time.

Considering the cause, as we understand it to-day, morphin is theoretically contra-indicated in all cases of puerperal eclampsia, for the reason that it inhibits both secretion and excretion, thus locking up the toxins in the system, and when used in doses large enough to control the convulsions undoubtedly endangers the life of both mother and child by prolonging the post-eclamptic coma. In emergencies, when other means are not at hand, its use is justifiable.

Chloroform, the most generally useful of all means at our disposal for the treatment of puerperal eclampsia, should be used to control the convulsions while waiting for the less active remedies to take effect, and for anesthesia when the more radical means are employed; but as recent investigations have shown that its prolonged use causes acute degeneration of the liver and kidney cells, it is advisable, on account of the already crippled condition of these organs, to substitute ether when it is necessary to continue the administration for a considerable time.

490 Endicott Arcade.

THE SITUATION AS REGARDS SALVARSAN (606)

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Indications at present are very strong that we are on the verge of a period of indiscriminate and reckless use of Ehrlich's new remedy, 606, or salvarsan, as it is known commercially, that will result in disappointment in that valuable remedy and—what is more important—in damage to many syphilitic patients, chiefly, let us hope, from neglect of established measures of treatment. Indeed, it will be very fortunate if we do not have another therapeutic fiasco, like that following the announcement of Koch's tuberculin, in which a valuable remedy failed to come up to first expectations, and thereby caused disappointment from which it did not recover for ten years. For in the excitement over 606 we are apparently remembering only that it was introduced to cure syphilis, and are therefore assuming that it will cure it, and are not taking heed of the fact that experience already is showing that it is not doing it. Undoubtedly the basis of the sensational interest in 606 —the sole basis in the popular, if not in the professional, mind—is the belief that the new remedy is a cure for syphilis; that it will completely destroy the infection and leave the patient free from the disease; that the person who gets syphilis will be cured "at one shot"—to adopt an expression concerning 606 now in the vernacular; and that the disease will be robbed of its seriousness. Take, for example, the following statement[1]—not from the daily press, but from one of the soberest of scientific journals: "One of the greatest scourges of humanity—perhaps the most insidious and cruel of all, since it so often places its victims beyond the pale of human sympathy, to be loathed rather than pitied—is on the point of being eradicated." The patient is to be cured of syphilis by one injection, or mayhap two or three, and the treatment is so efficient that syphilis is possibly "on the point of being eradicated."

And this conception of the possibilities of the agent are in accordance with the purpose for which 606 was introduced. To cure syphilis was Ehrlich's noble aim. The new drug was to be a *therapia sterilisans magna*—to destroy by one massive dose of a "parasitotropic" remedy all of the infecting organisms in a syphilitic patient.

In the light of even the brief present experience with 606, it may be said with confidence that the agent has failed in this magnificent aim. It is not a *therapia sterilisans magna;* it does not destroy the infection; and it does not rid the syphilitic patient of his syphilis. This is not saying that the drug is not a useful remedy; there seems every reason to believe that it is a valuable addition to our means of combating syphilis.

Ehrlich's hopes for 606 were based on animal experiments. Ehrlich recognized, as do others, that experiments on syphilized animals with the agent were not conclusive for man, and he turned over the remedy to clinicians for trial in human syphilis. And it is with the results in human syphilis that we have to do.

The belief that salvarsan cures syphilis in man depends on the following considerations:

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[1] Schweitzer, H.: Ehrlich's Chemotherapy, Science, Dec. 9, 1910, p. 809.

1. The destruction of the spirochetes.
2. The reversal of the Wassermann reaction.
3. The removal of the clinical manifestations of syphilis.

The evidence is becoming increasingly strong that the agent does not permanently and completely cause any of these results.

It has a very striking effect on spirochetes, but the sudden disappearance of spirochetes from lesions is no evidence of an overwhelming attack upon the disease. The drug may cause the disappearance of spirochetes from a chancre within twenty-four hours and greatly reduce the number, or cause their disappearance from deeper lesions—but mercury may do the same thing. A little calomel powder dusted on a chancre will within twenty-four hours make it exceedingly difficult or impossible to demonstrate spirochetes; and as soon as a syphilitic patient is brought thoroughly under the influence of mercury the difficulty of demonstrating spirochetes is enormously increased. And yet under such conditions, who attaches any weight to these findings as an evidence of the cure of syphilis? If one were to take any warning from the accumulated experience of generations in syphilis, it would lead him to expect that the apparent disappearance of the spirochetes was but a lull in the invasion and that they would return. And that is exactly what is coming to light. Disappearing spirochetes are returning, it may be, even at the site of the original lesion, where their disappearance has been regarded as of such significant importance.

The Wassermann reaction is very much more reliable evidence of the effect on the disease, for its findings cover the patient's whole organism. Present experience indicates that a reversal to negative occurs in a minor proportion of cases; but if it were made negative in all cases, only time—and much more time than the few weeks after treatment of most of the reports—would show that this negative reaction meant cure. The Wassermann reaction can be made negative by vigorous mercurial treatment—not so readily, however, as by 606—but no conservative syphilographer regards this as evidence of cure. On the contrary, experience with mercury shows that a return to positive is to be expected, and that treatment must be persisted in after the manner that we have learned from clinical experience. As a matter of fact, we do not yet know how to interpret the reversal of the Wassermann reaction in its bearing on treatment. The same return to positive of cases which have become negative under salvarsan is occurring in the same way as after the use of mercury.

But, after all, the most important evidence as to the value of 606 is the effect on the clinical manifestations of syphilis; and here experience indicates great variability. These variations extend from cases which are "refractory" to the drug, and show no effect, to cases in which strikingly good results are seen. As a rule, there is in active early syphilis—the stage at which most would be expected from a remedy that cured—distinct and positive improvement. Sometimes the symptoms entirely disappear—as happens from mercury or even without treatment—but that, even in these cases, no cure is obtained, is shown by the definite tendency to recurrence that the later literature is revealing.

In fact, accumulating experience simply shows that the remedy has as a rule a distinctly beneficial effect on the lesions of syphilis, but not so positive or beneficial an effect as would give any ground for the hope that it will cure the disease by the radical destruction of the invading spirochetes. How definite and constant these effects will be, or whether the action of the drug will be as reliable as that of mercury, cannot with our present experience be determined. But it can at least—and unfortunately—be said from present experience that the effects on symptoms are such as to show that salvarsan falls short of cure of the disease.

How useful 606 will prove is another question. The burden of reports is that it shows marked effects in intractable and destructive lesions. In the usual cases of active early syphilis it is very much to be doubted if it is of more value than mercury. In late lesions—lesions of the tertiary period—particularly in those which have been intractable to other treatment, the most striking results have occurred. In the cases of active secondary syphilis of the ordinary types that I have seen treated with salvarsan the effects have certainly not been more rapid or better than would be expected from mercury—not, I believe, so good. In three or four cases with very extensive ulcerative lesions the effects have been remarkably good. Various syphilographers are calling attention to the fact that men are losing sight of the results obtained from mercury, and that the new agent does not show results to indicate any probability of its superseding or being superior to mercury in the treatment of syphilis; that, so far as we can judge from present experience, mercury must still be our reliance, but that as a reserve we have a valuable agent in 606.

Of the dangers of salvarsan we are least able to speak at present. We do not fully know them. The evidence is large that immediate risk of serious accidents from the remedy are small. But enough is known to show that dangers exist. There is good ground for the belief that a larger proportion of serious accidents are occurring than would be estimated from the present literature. And that serious accidents should occur is not surprising. Salvarsan is the lineal successor of atoxyl, soamin, and arsacetin. All of these were introduced as safe arsenical preparations—atoxyl, so safe that its atoxic character was "blown" as it were in its name—and all have a train of arsenical fatalities and optic atrophies in the wake of their use in therapeutic doses. Salvarsan has about 35 per cent. arsenic content; it is administered in an average dose of half a gram—8 grains—that is, a dose of 2.8 grains of arsenic. There is no doubt that such a dose of arsenic has in it immediate possibilities of optic atrophies and other dangers. The dangers of its use, however, are as nothing in the face of a severe syphilitic crisis, or if the remedy were able to cure syphilis.

There is great diversity of opinion about technic of efficient administration, with much striving for a new technic that will be more effective. Injections in neutral emulsion, in alkaline solution, or mixed with oil, into the subcutaneous tissue, into the muscles, or into the veins, or combinations of these various methods of administration are succeeding each other. The hope of a *therapia sterilisans magna*—the complete destruction of the spirochetes of syphilis in an infected patient—is practically abandoned, and two or three or more injections are being used. And, finally, the recommendation of the use of salvarsan and then mercury, as heretofore, is the last evidence that the new agent is not equal to its proposed mission.

It cannot be emphasized too strongly that the situation with 606 is still experimental—and more experimental than it was thought to be when the drug was introduced. Its position is not established; the degree of its usefulness—even of its immediate usefulness on the active manifestations of the disease—is not established. The amount of beneficial effect it will have on the after-history of syphilis is, of course, with our present brief experience with 606, purely theoretical—with grounds existing for different theories. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

The foregoing statement can be abundantly substantiated from the recent literature. Particular attention in this connection may be called to the following references:

Dr. W. Fischer, assistant to Professor Buschke, who writes for Buschke's Dermatological Clinic in the Rudolf Virchow Krankenhaus, Berlin—the very center of the clinical exploitation of "606:" *Medizinische Klinik*, Nov. 6, 1910, p. 1778.

Professor E. Lesser and Sanitätsrath Dr. O. Rosenthal, Berlin: *Deutsche medizinische Wochenschrift*, Nov. 17, 1910, pp. 2175 and 2176.

Professor Gaucher, successor to Fournier in St. Louis Hospital, Paris: Paris Letter, The Journal A. M. A., Dec. 10, 1910, p. 2074.

Professor E. Finger, Vienna: *Wiener klinische Wochenschrift*, Nov. 24, 1910, p. 1667.

72 Madison Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6^\circ}{D} = -51.4^\circ$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

L-SUPRARENIN SYNTHETIC BITARTRATE.—L-suprarenin synthetic bitartrate is the acid tartrate of l-suprarenin synthetic.

It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York). German patent No. 222,451.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage forms of accepted proprietary articles have been accepted for N. N. R.:

Protan and Opium Tablets, No. 1.—Each tablet contains opium 0.005 Gm. (1/12 grain) and protan 0.162 Gm. (2½ grains).

Protan and Opium Tablets, No. 2.—Each tablet contains opium 0.03 Gm. (½ grain) and protan 0.5 Gm. (7½ grains).

Supracapsulin Inhalent.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

Therapeutics

NOT TUBERCULOSIS

History.—A young man, aged 28, came on Oct. 7, 1910, to ascertain how long he could live. He had been told that he had tuberculosis of the lungs, and had been treated three years for that disease. He had not worked for the last seventeen weeks, and was, in his opinion, rapidly growing worse. He had not a real cough, but he hawked and raised a great deal of yellowish sputum which was very frequently streaked with blood; in fact, hardly a day passed that he did not raise some blood. He had considerable gastric indigestion, some nausea, but no vomiting, quite a little gastric flatulence, but no pyrosis. A year and a half ago he had trouble with diarrhea, having movements of the bowels from ten to twelve times a day, but for the last six months the bowels had moved only two or three times a day, and not loose. The previous history shows that the patient had never really coughed, and that he had been subject to nose-bleed, sometimes as often as five or six times a week; it might not occur for several weeks, and then he would again have a period of it. He had no recognizable palpitation; no dyspnea on exertion; slept well; had had no swelling of the feet and legs. He had never had any urinary trouble, except a gonorrhea twelve years ago, and had no syphilitic history. He did smoke a great deal, but not so much during the last year. He also chewed tobacco. He had never used much alcohol. The only severe illness he ever had was pneumonia when 12 years of age. The patient's father died of kidney trouble; his mother was alive and well. One sister died of tuberculosis three years ago. The patient did not live in the same house as this sister. Three sisters and two brothers were alive and well.

Examination.—Last year at this time the patient weighed 127 pounds; he now weighed 136, and the weight had remained stationary for the last three months. His tongue was slightly coated and moist. The pulse was 78, occasionally intermittent. Temperature was 98 at 2 p. m. The heart was not enlarged, but showed an incomplete contraction of the ventricles every sixth to tenth beat, which accounted for the intermittency at the wrist. There were no murmurs. The lungs were absolutely normal. The abdomen was normal, with perhaps slight epigastric tenderness. There was an enlarged thyroid gland. The pharynx showed chronic catarrh, as did the naso-pharynx. The lingual tonsil was enlarged, coated, and showed a number of dilated blood-vessels. The nostril which bled the most frequently, the left, showed a swollen mucous membrane, and the mucous membrane of the septum was unusually red. The urine and the sputum were negative.

Diagnosis.—Disturbed thyroid secretion caused the diarrhea and the tendency to bleeding. The large amount of tobacco caused the throat catarrh, lingual tonsil irritation, and probably the irregular action of his heart. There was no tuberculous trouble in this patient.

Treatment.—The patient was told to go to work; to stop tobacco; and given Seiler's tablet gargle, and a small dose of sodium iodid to satisfy the probable need of the thyroid to improve its activity.

℞	Gm. or c.c		
Sodii iodidi	2		gr. xxxi
Aquæ menthæ piperitæ	100	or	fl ℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

October 21: The patient has been working throughout the two weeks since last seen; is feeling very much better; has no cough, and less expectoration; the appetite is good; the bowels constipated. The pulse is regular, and the heart has ceased its reduplicating beat. The throat looks very much better, and the patient has raised no blood since October 11; has not quite stopped his tobacco. The patient is told to cease his use of tobacco absolutely, and to continue the same medication.

November 4: The patient feels well; is not in the least tired after working all day, and is perfectly able to work longer, he says. He has entirely ceased his use of tobacco; raises but little sputum, and that is white instead of yellow, and without a drop of blood. The tongue is in perfect condition; the appetite is fine; the bowels act normally; the pulse is regular, and the heart is acting perfectly. The throat looks almost normal; the lingual tonsil is apparently normal, except for some enlarged blood-vessels; the weight is 137 pounds.

The patient is dismissed; told to stop all medication, except twice a day for a short time to use a tannic acid gargle.

℞	Gm. or c.c		
Acidi tannici	3		gr. xlvi
Glycerini	10	or	fl ʒiiss
Aquæ	ad 200		ad fl ℥vi

M. et Sig.: Use as a gargle, twice a day.

REMARKS

A patient could not have had active tuberculosis of three years' duration, with profuse expectoration, with blood, without loss of weight, fever, tubercle bacilli in the sputum, and very evident lung lesions.

No examination of a patient is complete without an examination of the throat, and if he is coughing and raising blood, the laryngoscope should be used to examine the lingual tonsil and larynx.

Excessive use of tobacco can cause the disturbance of the heart as noticed in this patient.

Disturbed thyroid secretion can cause digestive disturbances, mucous membrane congestions, and a tendency to bleeding as occurred in this patient.

A small dose of iodid will often stimulate a thyroid to normal activity, and an enlarged thyroid may become reduced in size under such a treatment. This patient's thyroid was undersecreting and not oversecreting.

GOOD SENSE IN PRESCRIBING

The following has been recently recommended as an internal treatment for posterior urethritis:

℞	
Mass of copaiba	2 gr.
Oil of santal	2 *m*
Potassium bicarbonate	4 gr.
Extract of kava-kava	2 gr.
Atropin sulphate	1/250 gr.

M. et fac Pil. 1.
Sig.: One pill every two hours.

Further instruction is given that this treatment should be stopped after the urgency of urination has subsided, but there is no definite limit placed on the number of pills that shall be taken at the rate of every two hours.

In the first place, atropin sulphate is a potent drug. It is absolutely uncertain when each 1/250 will be absorbed from the sticky mass with which it is incorporated. It is therefore uncertain how much atropin will be in the patient at one time, even if each individual dose is small. Also, as the excretion of belladonna or atropin is very slow, taking certainly from ten to twenty hours, at least five doses, taken at two-hour intervals, would be in the patient at once, making 1/50 of a grain of atropin somewhere in him. Also, in this sort of a sticky mass several of the pills might dissolve very slowly, and then all at once several might dissolve rapidly, depending on their chemical surroundings, and the patient might be poisoned. In other words, this method of administering atropin is absolutely inexcusable. If atropin action is desired, a soluble tablet of atropin sulphate, uncombined, may be given the patient by the mouth, in doses of 1/250 of a grain, or, better, 1/200 of a grain, and repeated every four to six hours, if deemed advisable, to be stopped as soon as symptoms of atropin action were evident, viz., a dry throat, flushed face, or dilated pupils.

Massa copaibæ, not official in the last Pharmacopeia, but official in the Pharmacopeia of 1890, is really a solidified copaiba. Its action is similar to the better preparation of "Copaiba," which is official in the Pharmacopeia of 1900, and is a thick liquid. Copaiba, oil of santal, and kava-kava belong to the same class of drugs, *i. e.*, are all genito-urinary stimulants. In other words, theoretically, they should not be used in acute inflammations of this part of the body, but are valuable in subacute and chronic inflammations of the genito-urinary tract. They all interfere more or less with digestion, and may produce flatulence, pyrosis, and even nausea. They readily cause a coated tongue. The drug least likely to cause indigestion is the oil of santal; consequently, as these drugs act in the same way, the oil of santal should be preferred. Two grains of the mass of copaiba every two hours would soon cause gastro-intestinal disturbance, with no advantage to the patient over the oil of santal. Also, any drug, especially in pill or capsule form, should preferably be administered after meals, when it is least likely to cause stomach disturbance. Therefore, a genito-urinary stimulant administered in pill form every two hours is inadvisable.

As just stated, the oil of santal is the best genito-urinary stimulant, and there is no need for the others. There is nothing that oil of santal can do pharmacologically that the other two drugs can do better. There is nothing that oil of santal cannot do that the other two drugs can do pharmacologically.

The oil of santal in 2-minim doses, made into a solid pill, would require a considerable amount of dry excipient to absorb it. The oil of santal is best administered in flexible capsules, and it is better administered in larger doses, after meals, than in a small dose every two hours, when it is surely more or less irritant to the stomach.

Potassium bicarbonate is an alkaline diuretic. The dose of 4 grains, even every two hours, is very small. Such a dose would probably ordinarily not render the urine alkaline, as the dose for this purpose would be 2 gm., or 30 grains, three or four times in twenty-four hours. In amount to do any good, it must be administered in solution, and it tastes disagreeable. Potassium citrate is more agreeable to taste and will do as well. It may be administered as follows:

℞	Gm. or c.c.		
Potassii citratis	40		℥i
Aquæ gaultheriæ	200	or	fl. ℥v

M. et Sig.: 2 teaspoonfuls, in water, three, four, or five times a day, as deemed necessary.

There is no official extract of kava-kava. Kava-kava is a pepper (*Piper methysticum*) which grows in the South Sea Islands. It acts locally in the stomach and intestines as a pepper. It contains some resinous bodies which have been thought to have some action as a genito-urinary stimulant. Its action is certainly very much inferior to that of the oil of santal. As a drug it is not needed.

than it was thought to be when the drug was introduced. Its position is not established; the degree of its usefulness—even of its immediate usefulness on the active manifestations of the disease—is not established. The amount of beneficial effect it will have on the after-history of syphilis is, of course, with our present brief experience with 606, purely theoretical—with grounds existing for different theories. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

The foregoing statement can be abundantly substantiated from the recent literature. Particular attention in this connection may be called to the following references:

Dr. W. Fischer, assistant to Professor Buschke, who writes for Buschke's Dermatological Clinic in the Rudolf Virchow Krankenhaus, Berlin—the very center of the clinical exploitation of "606:" *Medizinische Klinik*, Nov. 6, 1910, p. 1778.

Professor E. Lesser and Sanitätsrath Dr. O. Rosenthal, Berlin: *Deutsche medizinische Wochenschrift*, Nov. 17, 1910, pp. 2175 and 2176.

Professor Gaucher, successor to Fournier in St. Louis Hospital, Paris: Paris Letter, The Journal A. M. A., Dec. 10, 1910, p. 2074.

Professor E. Finger, Vienna: *Wiener klinische Wochenschrift*, Nov. 24, 1910, p. 1667.

72 Madison Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. Puckner, Secretary.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6^\circ}{.D} = -51.4^\circ$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

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It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

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Supracapsulin Inhalent.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

Therapeutics

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History.—A young man, aged 28, came on Oct. 7, 1910, to ascertain how long he could live. He had been told that he had tuberculosis of the lungs, and had been treated three years for that disease. He had not worked for the last seventeen weeks, and was, in his opinion, rapidly growing worse. He had not a real cough, but he hawked and raised a great deal of yellowish sputum which was very frequently streaked with blood; in fact, hardly a day passed that he did not raise some blood. He had considerable gastric indigestion, some nausea, but no vomiting, quite a little gastric flatulence, but no pyrosis. A year and a half ago he had trouble with diarrhea, having movements of the bowels from ten to twelve times a day, but for the last six months the bowels had moved only two or three times a day, and not loose. The previous history shows that the patient had never really coughed, and that he had been subject to nose-bleed, sometimes as often as five or six times a week; it might not occur for several weeks, and then he would again have a period of it. He had no recognizable palpitation; no dyspnea on exertion; slept well; had had no swelling of the feet and legs. He had never had any urinary trouble, except a gonorrhea twelve years ago, and had no syphilitic history. He did smoke a great deal, but not so much during the last year. He also chewed tobacco. He had never used much alcohol. The only severe illness he ever had was pneumonia when 12 years of age. The patient's father died of kidney trouble; his mother was alive and well. One sister died of tuberculosis three years ago. The patient did not live in the same house as this sister. Three sisters and two brothers were alive and well.

Examination.—Last year at this time the patient weighed 127 pounds; he now weighed 136, and the weight had remained stationary for the last three months. His tongue was slightly coated and moist. The pulse was 78, occasionally intermittent. Temperature was 98 at 2 p. m. The heart was not enlarged, but showed an incomplete contraction of the ventricles every sixth to tenth beat, which accounted for the intermittency at the wrist. There were no murmurs. The lungs were absolutely normal. The abdomen was normal, with perhaps slight epigastric tenderness. There was an enlarged thyroid gland. The pharynx showed chronic catarrh, as did the naso-pharynx. The lingual tonsil was enlarged, coated, and showed a number of dilated blood-vessels. The nostril which bled the most frequently, the left, showed a swollen mucous membrane, and the mucous membrane of the septum was unusually red. The urine and the sputum were negative.

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Treatment.—The patient was told to go to work; to stop tobacco; and given Seiler's tablet gargle, and a small dose of sodium iodid to satisfy the probable need of the thyroid to improve its activity.

℞	Gm. or c.c	
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Aquæ menthæ piperitæ	100	or fl ℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

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The patient is dismissed; told to stop all medication, except twice a day for a short time to use a tannic acid gargle.

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Aquæ	ad 200		ad fl ℥vi

M. et Sig.: Use as a gargle, twice a day.

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Atropin sulphate	1/250 gr.

M. et fac Pil. 1.
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℞	Gm. or c.c.		
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Aquæ gaultheriæ	200	or	fl. ℥v

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[*For other information see second page following reading matter*]

SATURDAY, JANUARY 14, 1911

CANCER OF THE APPENDIX

In the early days of the surgical pathology of the appendix the occurrence of neoplasms of this organ was not often noted, but as the laboratories of hospitals and clinics became better organized and thorough gross and microscopic examination of all surgical specimens became a matter of routine, a histologic diagnosis of cancer in an appendix removed for supposedly simple appendicitis began to be somewhat less of a rarity. The literature of this subject also began to increase rapidly, and although there were but a few scattered cases reported before 1900, since that time medical journals have teemed with reports of single cases or small groups of cases. In 1908 McWilliams[1] was able to collect records of 105 cases, and since then a great number have been added, MacCarty[2] having reported one group of twenty-two cases among five thousand appendices removed by the Mayos. Statistics from large clinics, where great numbers of appendices are removed and thoroughly examined, have shown with remarkable uniformity that not far from 0.5 per cent. of all appendices removed for whatever cause show thickenings, nodules or tumor masses which exhibit a microscopic structure warranting the pathologist in returning a diagnosis of cancer.

In most cases this diagnosis reaches the surgeon as a surprise, the appendix having been removed for symptoms and findings which indicated nothing more than ordinary acute or chronic appendicitis; and at first such diagnoses occasioned much alarm and anxiety. The general experience, as exhibited by the literature, soon brought at least partial relief, for it was found that in spite of the positive diagnosis of cancer by the pathologist, the patients, when watched for several years, in but few instances gave evidence of recurrence or metastasis. To explain this unusual behavior of appendix carcinoma various explanations were suggested. Some authors have thought that because of the location of these cancers they soon cause symptoms of obstruction to the lumen of the appendix, leading to a diagnosis of appendicitis and removal at so early a stage in the development of the growth that metastases and regional infiltration have not developed. The pathologists have pointed out that the structure of these epithelial growths is usually somewhat different from that of the ordinary malignant cancers of the gastro-intestinal tract, many being of a spheroidal-cell type approaching in character the rodent ulcer or basal-celled carcinoma of the skin, which is notorious for its slow growth and its failure to produce metastases.[3] Other explanations have been offered, among them one based on the vestigial character of the appendix and the possibility that locally defective resistance might permit of a cancer growing here which could not obtain foothold in the normally developed structures elsewhere.[4]

Of late there has been a growing doubt as to whether, after all, these epithelial neoplasms in the appendix are true cancers, in spite of the typical invasion of the connective and muscular tissues by strands of columnar or spheroidal cells. Some of the reasons for skepticism are well put by Sitsen,[5] who calls attention especially to the fact that in large autopsy material pathologists do not find carcinomas arising from the appendix except as the greatest of rarities, nor did they in the days before the appendix was removed by operation for inflammatory attacks. If one in every two hundred inflamed appendices were carcinomatous, as the surgical laboratory statistics intimate, then among the hundreds and thousands of chronically inflamed appendices observed at autopsy there should be not a few fatal cancers. Of 1,460 cases of cancer in the public hospital of Berlin, however, in but one did the disease definitely arise in the appendix, and Nothnagel found but one such case in 2,124 cancers. Furthermore, the fact that, out of about one hundred instances in which a microscopic diagnosis of cancer of a resected appendix has been made, only one has been reported as terminating fatally, gives abundant grounds for questioning the diagnosis.

In view of all this doubt concerning an important practical subject, we note with particular interest a warm discussion concerning cancer of the appendix at the last annual meeting of the German Pathological Society.[6] Winkler reported that he had found at autopsies no less than six appendices showing changes of the type usually diagnosed as carcinoma, yet in none of these cases was there evident regional infiltration or local or remote metastases. In the discussion which followed, participated in by some of the best-known pathologists in Germany, there developed much difference of opinion as to the exact status of these growths. It seemed to be generally agreed that they do not represent inflammatory hyperplasia of the endothelium of the lymph-channels, as some critics have suggested; but as to whether they should be looked on as true carcinomas, or as "carcinoid tumors," or as epithelial malformations of either embryonal or inflammatory origin, there was no agreement. Perhaps a fair interpretation of the opinions expressed here and elsewhere would be somewhat as follows: True malignant epithelial growths do occasionally, but rarely, arise in the appendix, and their occurrence is probably favored by chronic inflammatory processes; these true cancers are usually of the typical columnar-celled type, and sometimes mucoid changes are present, but this latter or "colloid" form is less common than in cancer of the cecum. As a result of chronic appendicitis we also have a snaring off and displacement of epithelium, which may proliferate to some degree, forming atypical epithelial growths which are not true carcinomas, but which may resemble carcinoma closely, and into which they may also become transformed. Similar structures may also be produced by congenital malformation or displacement of the epithelial structures of the appendix, analogous to certain epithelial growths found elsewhere in the alimentary tract, and accounting for the supposed carcinomas which have been described in the appendices of young children. Finally, as a result of chronic infection, the endothelium of the lymph-channels of the appendix may proliferate in such a manner as to produce appearances strongly suggestive of cancer infiltration. The chief conclusion to be reached is that surgeons should appreciate, as well as the best pathologists do, the limits of our ability to decide positively from microscopic appearances alone the malignant or non-malignant character of each and every growth; and also that, especially in the appendix, we encounter not only true carcinomas, but also much more frequently epithelial proliferations which exhibit all the usual histologic criteria of malignancy without necessarily or commonly causing the clinical results usually associated with cancer.

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[1] McWilliams: Am. Jour. Med. Sc., 1908, cxxxv, 822.

[2] MacCarty, W. C.: Classification of Appendicitis, THE JOURNAL A. M. A., Aug. 6, 1910, p. 488.

[3] See Warthin: Physician and Surgeon, December, 1906.

[4] Horsley, J. Shelton: Carcinoma of the Bowel and of the Appendix in the Young, THE JOURNAL A. M. A., May 8, 1909, p. 1471.

[5] Sitsen: Centralbl. f. Path., 1910, xxi, 871.

[6] Verhandl. d. deutsch. path. Gesellsch., 1910, xiv, 167.

PUBLIC HEALTH AND THE COURTS

The important decision of the Supreme Court of Minnesota which was cited in our last issue[1] is another indication of the gathering force of public opinion in matters of public health. The causes that sway public opinion and determine national character from age to age are often obscure, but their effects are nevertheless striking. The contrast between the Elizabethan Englishman and the Englishman of the time of Pope and Swift or of Lloyd George and Rudyard Kipling is one of the really important facts of history. The transformation in the national character of the German people which has occurred in the last hundred years is another and most remarkable instance of the change that may take place in the character of a great nation. Our knowledge of the underlying factors concerned in such changes is still very imperfect, although Bagehot's characteristically shrewd speculations on the subject are well worth reading.

No competent observer can doubt that we in this country are passing through one of these periods of transformation of national character. National ideals are shifting and new forces are making themselves felt in politics, business, religion and medicine. The greater sensitiveness now displayed by public opinion about all matters relating to the public health is one of the many manifestations of the new spirit. It is perhaps in keeping with the qualities of the legal mind that the courts should not be among the first agencies of public opinion to reflect the view that is becoming dominant. At the same time, it is well for many reasons that they should not be the last. In any case, public opinion will not indefinitely tolerate legal decisions that are sharply out of harmony with the prevailing type of national judgment or modes of thought.

The Minnesota decision, which holds that a municipality becomes liable for negligence if it carelessly allows the water in its waterworks system to become polluted, so causing deaths from typhoid fever, is an especially significant illustration of the increasing responsiveness of the courts to the modern view of public health responsibilities. The matter is put squarely on the same footing as negligence in regard to care of streets and sidewalks. One part of the decision merits wide publicity: "It is obvious that a sound public policy holds a city to a high degree of faithfulness in providing an adequate supply of pure water. Nor does it appear why the citizens should be deprived of the stimulating effects of the fear of liability on the energy and care of its officials; nor why a city should be exempt from liability while a private corporation under the same circumstances should be held responsible for its conduct and made to contribute to the innocent persons it may have damaged."

It remains to be seen what effect this decision will have on the outcome of damage suits that have been started in Rutland, Rochester and other places where typhoid fever has been attributed to public water-supplies. One thing is sure, however, and that is that the best public opinion will no longer rest satisfied with an explanation of "accidental" or "unavoidable" for extensive water-borne typhoid epidemics. Someone's negligence is usually responsible for such a catastrophe, and in many cases it will be found possible to assign responsibility and to insist on punishment or reparation so far as that is possible. The Minnesota decision will be warmly welcomed by everyone interested in having the established conclusions of modern medical science recognized by progressive legal opinion and made part of the law of the land. The translation of technical knowledge into practical measures for improving conditions of life is an indispensable condition of real progress.

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[1] Medicolegal Department, p. 65.

DAIRY INSPECTION

The extensive use of milk in the raw state as a food by both adults and infants, the ease with which it is contaminated and its qualities as a culture medium for dangerous bacteria, render it important that the highest degree of purity be secured and maintained in its production and after-care. To this end there has been a constantly increasing activity on the part of health officers and sanitarians to improve the quality of the milk-supplies of cities and towns. Local milk commissions for securing milk of certified quality have been organized, and regular inspections of dairies instituted. We commented recently[1] on the practical side of clean milk production and its cost.

It is generally agreed that a bacteriologic examination furnishes the most accurate insight into the conditions which have prevailed during the production and handling, and that the bacterial content of the milk is the proper index of its purity or safety as an article of diet. Some authorities think that an ideal milk would contain no germ life, but such an ideal would doubtless be difficult of attainment. No way has been found of producing milk with less than a few hundred bacteria per cubic centimeter, since milk in the udder is not sterile; and under commercial conditions milk with a few thousand bacteria per cubic centimeter must perhaps be considered the limit of the attainable.

In the production of a pure or safe milk with a low bacterial content, care is necessary at four stages: in production, in transportation, in distribution, and, by no means least in importance, in the home after it is finally distributed. The first three may be controlled by suitable legislation, by inspection and laboratory examinations; the last must be improved by proper education of the consumer. Milk may be produced with care, yet become unwholesome through improper handling during transportation and distribution. If it is produced with too little care, or, as is frequently the case, with gross carelessness, subsequent attention cannot make good milk of it.

The chief attention should be concentrated on a cleanly and hygienic production; and therein the rôle of the inspector is most important. Much depends on the knowledge and judgment of the inspector. Unfortunately at present the inspection of dairies is carried on largely by persons not properly educated for the duties. Many delicate points have to be considered and decided, and their decision depends not only on intelligence and experience, but on a technical knowledge of the various sciences concerned, particularly of bacteriology. Without a thorough knowledge of dairy bacteriology, some points are sure to be overlooked or misjudged. Inspectors may insist on changes which are not justified in the light of modern knowledge, or on points about which scientists still disagree, in consequence of which dairymen who endeavor to produce a truly sanitary milk become discouraged or are put to needless expense and annoyance. It is therefore highly important that dairy inspectors be men of good practical judgment, thoroughly trained in the technical requirements of clean milk production, and well acquainted with the best work in dairy research. The card system of recording the results of inspections and establishing the rating of each dairy has proved of value, but needs further elaboration and improvement. About this we may have something to say later.

SURGEONS AS NON-BELLIGERENTS IN WAR

In his recent and notable "History of the Confederate War," Eggleston calls attention[1] to a great step forward in the civilization of warfare which was brought about by one of America's great surgeons, who was also one of the Presidents of the American Medical Association. The event makes an epoch in the betterment of the customs of war, and its origin deserves to be more widely known than it is. In describing Stonewall Jackson's Valley Campaign, Eggleston pauses to give the following account of the event in question, which occurred after the battle of Winchester, in May, 1862:

"In the meanwhile, it is pleasant to record here one step forward in civilization which was made during this campaign, and the author of which, Dr. Hunter McGuire, deserves remembrance for his humanity. Until that time, and indeed for long afterward, surgeons in charge of hospitals full of wounded men, on falling into the enemy's hands, were treated as prisoners of war. After every battle, therefore, the surgeons of a retiring army, in charge of wounded men from both sides, must make a hard choice. They must either abandon their patients—many of whom were in desperate need of immediate surgical attention—or they must submit themselves to the rigors and sufferings of a military imprisonment, precisely as if they had been taken in battle. As a result of this peculiar barbarism of war the wounded—by the flight of their surgeons—were often left unattended at the critical moment that meant to them the difference between life and death. Many precious lives were needlessly sacrificed to this barbaric military practice.

"At the battle of Winchester Jackson captured all the Federal surgeons in charge of the field hospitals there, but instead of sending them to Belle Isle or Andersonville or Libby Prison, he acted on the suggestion of his medical director, Dr. Hunter McGuire, and released the doctors unconditionally on the rational and humane ground that surgeons do not make war, and ought not to be subjected to war's pains and penalties, and on the still more rational and humane ground that it is needful for the care of the wounded on both sides that surgeons shall be permitted to remain at their posts until surgeons on the other side can replace them, regardless of army movements and without fear of being sent to a loathsome prison as a punishment for their faithfulness to their merciful duty.

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[1] Jan. 7, 1910, p. 48.

[1] Eggleston, George Cary: The History of the Confederate War, i, 385, et seq.

"This step forward in the amelioration of war's horrors was not generally followed up until two years later when, during the tremendous struggle of 1864, General Lee and General Grant, acting on their own humane impulses and with no authority except the confidence of each that his acts would be approved, agreed that surgeons in charge of wounded men should not be made prisoners of war. . . .

"It was Dr. Hunter McGuire who first offered this suggestion in behalf of humanity, and it was Stonewall Jackson who first took the responsibility of acting on it. To their memory history should record honor for it."

It is a pleasant duty to repeat this bit of history and to give this tribute to one who left a rich heritage of good deeds.

Current Comment

DOCTORS DIGGING THE DITCH

Under the above heading the *St. Louis Republic* recently made the following editorial comment:

> When a great medical inventor or chemist discovers anything which promises to be or is of great benefit to mankind his discovery or invention at once becomes the common property of the human race without royalty or rate beyond that of personal service of the physicians who may administer such remedies.
>
> When a great commercial chemist or inventor makes a discovery of value to humanity he at once capitalizes it, and all mankind pays high tribute in the form of sometimes prohibitive royalty.
>
> In digging the Panama Canal the United States is obliged to pay tribute to monopolists of machinery and to patentees of various mechanical devices.
>
> Yet had it not been for the physicians who have made the canal zone habitable through sanitation the efforts of all the inventors and "world conquerors," of engineers and machinists would amount to exactly nothing.
>
> The doctors of the United States, not its engineers or mechanics, are doing the most important work in the great isthmian ditch. Yet it is the soldier, the engineer, the mechanic to whom the honors are accruing.
>
> Why is it that temporal honor and financial reward seem so bent upon being diverted from the ways in which they should properly travel?

The construction of the Panama Canal has been, and is, a magnificent object-lesson on the possibilities of prevention of disease by the application of facts connected with modern scientific medicine. No one will deny that the French had as good plans, as good engineers, as good machinery, and as good workmen as we have; but the French could not build the canal. And what was the reason? Simply that they could not keep enough men out of the hospitals and graveyards to complete it. The men sickened and died as fast as they could be imported. When the United States undertook the construction of the canal, the government did not call in the representatives of various erratic cults, "mind-cure healers" or patent medicine vendors to solve the problem as it related to health. Its solution was entrusted to educated, experienced, specially trained, scientific medical men; to those who brought to its solution the latest and best methods of modern science. And the results have justified the methods. The civilized world has marveled at the result of the work of the Sanitary Department of the Isthmian Canal. Yet, it is simply the application of modern medical science. There is not a village, not a city, not a state that cannot secure equal results in the way of prevention of sickness and the saving of life, if such methods are adopted and if competent men are given authority and opportunity.

STATE SOCIETIES AND A SANE FOURTH OF JULY

At least one state medical society, that of Pennsylvania, through a special committee, has been doing energetic work toward the securing of safer methods of celebrating the Fourth of July. This committee, which was appointed a year or two ago, has been giving wide publicity throughout the state to the statistics of deaths and injuries as published annually in The Journal, and has also been conducting a campaign through local clubs, societies and associations of Philadelphia, to secure the enforcement of existing laws, or the adoption of new laws restricting or prohibiting the use of fireworks during the celebration of Independence Day. Since proper control by the larger cities means practically the solution of the problem, the committee has drawn up two model prohibitive ordinances, one for boroughs and one for cities, and is now working to secure their adoption. The committee has also been working for the substitution of more desirable methods of celebration, such as picnics, parades, pageants, field sports and the like. The splendid work being done by the Medical Society of the State of Pennsylvania through its able committee is worthy of emulation in other states.

CONSUMPTION-CURE FAKES

At different times The Journal has exposed the methods of those firms and individuals who make capital out of the consumptive by advertising "cures" for his disease. The way in which one of these cruel frauds is carried on may be taken as typical of the methods of all. On another page[1] a widely advertised concern of this kind is dealt with—the J. Lawrence Hill Company. Like another "consumption cure" shown up a few weeks ago, the firm is located at Jackson, Michigan, a town which has also fathered such fakes as the Magic Foot Drafts, the Van Vleck Pile Cure, Young's Pepto-Pads, the Vitalia Company, Vibro Discs and Lung Germine. One of the reasons for this city being so popular as headquarters for mail-order medical fakes is made evident in the article before referred to: at least three of the concerns are operated by the same group of business men. The fact of the matter is, medical mail-order companies, as a general rule, are in no sense the property of those renegade members of the medical profession whose names appear on the stationery of the concern. Such physicians usually are merely cheap tools in the hands of business men who are concerned not at all with the moral, much less with the ethical, phase of the subject of quackery. The cruelty of promising to cure such diseases as cancer and consumption by means of pills bought in million lots from pharmaceutical houses does not, apparently, occur to such men. The business is, to them, merely a cold-blooded commercial proposition: A few thousand pills; a series of follow-up letters; a batch of testimonials; a cheap and unscrupulous physician; an advertising campaign—these are the stock-in-trade by which those engaged in this disreputable business gather in the toll of blood that pays dividends on the money invested. A pretty business, forsooth!

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[1] Page 134.

Medical News

CALIFORNIA

Million to Hospital.—Through the generosity of the heirs of Calvin Page and D. O. Mills, St. Luke's Hospital, San Francisco, will receive an endowment of more than a million dollars.

Personal.—Dr. John C. Hollister, formerly of Chicago, has recovered his health and settled in Los Angeles to resume practice.——Dr. M. Evangeline Jordan has been elected president of the Professional Woman's League of Los Angeles.

Advertising Abortionist Sentenced.—Charles H. Carelton, Los Angeles, charged with using the mails to advertise unlawful surgery, is said to have been found guilty, December 28, and fined $2,500. This individual was arraigned in 1909 on the charge of conducting the business of an abortionist and of using the mails in furtherance of this occupation. He is said to have pleaded guilty to a similar charge in 1908 and was fined $1,500.

Elections.—At the annual meeting of the Alameda County Medical Association, held in Oakland, Dr. Alexander S. Kelly, Oakland, was elected president; Dr. William A. Clark, San Leandro, vice-president; Dr. Pauline S. Nusbaumer, Oakland, secretary, and Dr. Dudley A. Smith, Oakland, treasurer.——The Santa Clara County Medical Society, at its annual meeting held in San José, December 21, elected the following officers: president, Dr. Jonas Clark, Gilroy; vice-presidents, Drs. William S. Van Dalsem, San José; Harry B. Reynolds, Palo Alto, and Robert L. Hogg, Saratoga; secretary, Dr. William T. McNary, San José; treasurer, Dr. Henry J. B. Wright, San José; delegates to the state association, Drs. A. Lincoln Cothran and Henry C. Brown, both of San José, and alternates, Drs. Louis V. Saph, Morgan D. Baker, John L. Benepe and Edward F. Holbrook, all of San José.

ILLINOIS

Enters Penitentiary.—Dr. J. Allen Cotton, Peoria, entered the State Penitentiary, Joilet, December 28, to serve an indeterminate sentence for forgery.

Small-Pox in State Hospital.—Employees and patients of the Elgin State Hospital have been vaccinated on account of the discovery that the chief gardener was ill with small-pox.

State Board Election.—At the annual meeting of the State Board of Health, held in Springfield, January 5, Dr. George W. Webster, Chicago, was reelected president, and Dr. James A. Egan, Springfield, was reelected secretary.

New Trial Granted.—In the case of Dr. Benjamin A. Arnold, Freeport, convicted in the March term of the circuit court of Stephenson County on account of criminal assault, and sentenced to four years in the penitentiary, the supreme court has reversed and remanded the case.

Superintendent of Health Loses Case.—In a case instituted by Dr. George T. Palmer, Springfield, against Dr. Addison C. James, Springfield, for alleged violation of the city ordinance which prescribes the reporting of all cases of communicable diseases, the magistrate dismissed the case on motion of the city attorney on the ground that the evidence was not sufficient.

Sterilization of Defectives.—A bill is being prepared by Judge Sherman, president of the State Board of Administration, with the assistance of Dr. Frank Billings, chairman of the State Commission on Charities, providing for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded wards of the state. The bill provides that in all cases the subject must be examined and passed on by an authorized board before this operation is performed.

Personal.—Dr. Charles M. Noble, Bloomington, who has been confined in a hospital on account of a fracture of the leg, is convalescent and has left the hospital.——Dr. Thomas E. Walton, Danville, was thrown from his buggy recently, fracturing a rib.——Dr. Edward E. Barbour, Peoria, is reported to be seriously ill with typhoid fever in St. Francis Hospital.——A judicial inquiry is to be made with the object of determining the mental condition of Dr. William P. Pierce, Hoopeston, who is alleged to be on the verge of a nervous collapse.

State Board Recommendations.—The Illinois State Board of Health, in its annual report to the governor, recommends the creation of a state sanatorium for consumptives; a bill providing for better methods of registration in vital statistics to conform with the provisions of the census bureau of the United States; a law providing for a revised medical practice act so as to give the State Board of Health jurisdiction over all licenses issued since 1877; continuation of the provision for free distribution of diphtheria antitoxin to all classes of people, and a special provision for the investigation of typhoid fever in the state.

Hospital Notes.—By the will of the late Elizabeth Shaw Dixon Public Hospital is bequeathed $30,000.——The Colon. Hospital, Geneva, has been incorporated by Drs. Raymond Scott, Francis M. Marstiller and others. The hospital now has accommodation for twenty-five patients.——A hospital for the care of destitute crippled children, costing $50,000, has been erected 3 miles west of Wheaton, as a branch of the Home for Destitute Crippled Children, Chicago. Sixteen acres of land were donated to the institution by Sears, Roebuck and Company.——A private sanitarium for the treatment of nervous diseases is being established by Dr. George W. Mitchell in Peoria.

Good Work at the Edward Sanatorium.—The report just issued of the Edward Sanatorium, Naperville, of which Dr. Theodore B. Sachs is medical director, gives an analysis of the first four years of the work of this institution. Of the patients who were admitted in the incipient stages of the disease, 91.5 per cent. have been discharged as either cured or the tuberculosis process arrested, and these are all still maintaining their condition and full working capacity. Of the moderately advanced cases treated at the sanatorium during the same period, 35 per cent. are at present in possession of full working capacity. The State Association for the Prevention of Tuberculosis maintains that the fact that patients taken in the first stages are cured at relatively small expense and again become productive members of the community, is a convincing argument in favor of state and local provision for the curable consumptive, obviating as it does the necessity of later care at county expense for both the advanced consumptive and his family left destitute.

The Apfelbaum Case.—The State Board of Health has served notice on David Apfelbaum that if he continues to practice, additional suits will be brought against him. In June last the board revoked his certificate for advertising under another name than his own, and for fraudulent use of the United States mail in conducting medical practice. A short time ago the board learned that Apfelbaum was still engaged in practice. He was served with notice to discontinue. The notice was disregarded. The board then brought suit against him for practicing medicine without a license. The defendant, through his attorney, declared that he had a license and that there was no provision in the law enabling the board to prosecute a man who had once been issued a license. The attorney took exception to this plea and pressed the suit which was tried in the municipal court, January 3. The court decided against Apfelbaum, who has appealed to the supreme court.

Chicago

Senn Memorial.—The building of a new high school at Ridge and Francis Avenues is recommended to relieve the old Lake View High School which is to be torn down. The new school is to be known as the Nicholas Senn High School.

Personal.—Dr. and Mrs. Robert H. Babcock and family have gone to California for a stay of two months at Pasadena.——Dr. Jacob M. Furstman has been appointed commissioner of health of Lacrosse, Wis.——Dr. Claude Tilleson, an intern at the Henrotin Memorial Hospital, was painfully burned while acting as Santa Claus at a Christmas celebration at the Nurse's Home of the hospital.

Impure Food Seized and Condemned.—More than 6,200 cans of tomato paste, weighing 124,000 pounds, said to be used by hotels and restaurants in making soup and tomato bouillon, were seized, December 30, by United States deputy marshals, who raided box cars in the Pennsylvania Railroad yards, following the filing of a libel against the tomato paste, in the United States District Court, declaring that the "paste was putrid, decomposed and contained filthy matter."

Hospital Notes.—The Iroquois Memorial Emergency Hospital, a monument to the six hundred and more who lost their lives in the Iroquois Theater fire, Dec. 30, 1903, was dedicated December 30, with impressive ceremonies. The building is of fireproof construction, four stories and basement in height, and contains twenty rooms, including four surgical dressing rooms and two operating rooms.——An order was issued December 29, allowing the Northern Trust Company as trustees of the will of the late Anna W. Durand to purchase a site for a hospital for infectious diseases. Mrs. Durand bequeathed $375,000 to be used for the erection and maintenance of the hospital.——The dispensary department of the Municipal Tuberculosis Sanatorium opened a night clinic at Gad's Hill Center, January 5. The dispensary is open Thursday evenings from 7 to 8 for the benefit of patients who are unable to come during the day.

KENTUCKY

Sisters of Charity Plan Sanatorium.—The Sisters of Charity of Nazareth are arranging to establish a tuberculosis sanatorium near Louisville at an expense of about $50,000.

Nurses' Home Damaged by Fire.—The Nurses' Home of the Jewish Hospital, Louisville, was damaged by fire to the extent of $3,000, recently. Fortunately no casualties occurred.

Typhoid in Railway Shop.—Owing to the prevalence of typhoid fever among employees of the Louisville and Nashville Railway shop, South Louisville, the county bacteriologist is making investigation of the water-supply used by the men at work. Fifteen cases of typhoid fever occurred among these men during the last three months.

Jefferson County Society Meeting.—The annual business meeting and election of officers of Jefferson County Medical Society was held in Louisville, January 2. The following officers were elected: president, Dr. Virgil E. Simpson; vice-presidents, Dr. Albro L. Parsons and Walker B. Gossett, and treasurer, Dr. Hugh N. Leavell, all of Louisville.

Vital Statistics Law.—The Kentucky Vital Statistics Law went into effect January 1. The first infant to be registered under the law was born at Bowling Green, the home of the secretary of the State Board of Health and the headquarters of the Vital Statistics Bureau. Registrars have been appointed in every county in the state largely by magisterial districts, save in larger cities and towns where one registrar will serve.

Personal.—Dr. William Bailey, the oldest practitioner of Louisville, fell on an icy pavement, December 27, and sustained an impacted fracture of the arm; on January 2, he had a mild cerebral hemorrhage, but nevertheless he is reported to be in favorable condition.——Dr. W. Ed Grant, health officer of Louisville, has returned from Pass Christian, Miss.——O. C. Robertson, Cynthiana, has been appointed the osteopathic member of the State Board of Health.

New Officers for Antituberculosis Society.—At the annual meeting of the Kentucky Association for the Study and Prevention of Tuberculosis, held in Louisville, Dr. Joseph N. McCormack, Bowling Green, was elected second vice-president; Dr. Hervey Keller, Frankfort, third vice-president, and Drs. Joseph N. McCormack, Bowling Green; Dunning S. Wilson, Louisville; George P. Sprague, Lexington; Henry P. Sights, Paducah; Vance Rawson, Danville; Hervey Keller, Frankfort, and J. C. Carpenter, Stanford, directors.

MARYLAND

Typhoid Fever at Naval Academy.—The outbreak of typhoid fever at the United States Naval Academy, Annapolis, which began in November last, affected twenty-six midshipmen without a single death, and 200 of the cadets submitted to vaccination with anti-typhoid serum. The outbreak has been traced to infected milk.

Personal.—Dr. William D. Hammond, Hagerstown, has been appointed resident physician of the Free Skin and Cancer Hospital, St. Louis.——Dr. Guy Steele, Cambridge, is ill with pneumonia.——Dr. Arthur L. Wright, assistant physician at the Maryland Hospital for the Insane, Catonsville, has been made pathologist, vice Dr. Robert P. Winterode, resigned to take charge of the proposed new State Hospital for the Colored Insane.——Dr. Augustine S. Mason, Hagerstown, is reported to be critically ill at his home.

Society Meetings.—At the annual meeting of the Talbot County Medical Society, held in Easton, the following officers were elected: president, Dr. William S. Seymour, Trappe; vice-presidents, Drs. Philip L. Travers, Easton; Joseph A. Ross, Trappe; secretary-treasurer, Dr. Clifford M. Steele (reelected); censors, Drs. Edward R. Trippe and S. Denny Willson, Easton, and Charles H. Rose, Cordova; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James A. Stevens, Easton.——The Medical Society of Somerset County held its semiannual meeting in Princess Anne, elected Dr. Teackle J. Smith, Princess Anne, president, and reelected Dr. Ralph L. Hoyt, Oriole, secretary-treasurer.

Baltimore

Hospital Sued.—Suit has been started against Mercy Hospital for $25,000 damages for the death of a man suffering from pneumonia, who, while delirious, threw himself or fell from a window. Negligence of those having the patient in charge is alleged.

Personal.—Dr. M. E. B. Owens, of the University Hospital staff, left for Spokane, December 23.——Dr. William H. Howell has resigned as dean of the Johns Hopkins Medical School, and has been succeeded by Dr. J. Whitridge Williams.——Dr. John W. Churchman, resident physician at Johns Hopkins Hospital, has resigned.——Drs. William Emrich and Hugh W. Brent have returned after three years in Brazil.——Dr. William J. Schmitz has been made second assistant bacteriologist of the City Health Department.

MASSACHUSETTS

Milk Commission.—The personnel of the Suffolk District Medical Milk Commission, beginning January 1, will be as follows: chairman, Dr. James Marsh, Jackson; secretary, Dr. Richard M. Smith; and Drs. George A. Craigin, Robert L. DeNormandie, B. L. Arms, and Fritz B. Talbot, all of Boston.

Personal.—Dr. F. Lyman Wells, formerly assistant in pathologic psychology in McLean Hospital, Waverly, has been made assistant in experimental pathology in the Psychiatric Institute of the New York State Hospitals and lecturer in psychology in Columbia University.——Dr. Edward Wyllys Taylor, Boston, has been nominated to succeed Dr. George F. Jelly, resigned, as a member of the State Board of Insanity.——Dr. Charles G. Dewey, Boston, has been made senior insanity expert, and Dr. William P. Prescott, junior expert.——Dr. Charles S. Tomkies, a member of the Boston City Hospital medical staff and former house officer of the Long Island Hospital and Alms House, has been appointed resident physician at that institution, vice Dr. George W. Holmes, resigned.

Bequests.—By the will of the late Mrs. William O. Moseley, Newburyport, $200,000 is bequeathed to the Anna Jaques Hospital, Newburyport, to be divided into two funds, of which the income only is to be used. The first fund is to be known as the William O. Moseley Fund and the income is to be applied to the purposes of the hospital; the other fund is to be known as the Julia M. Hale fund, and the income is to be devoted to the maintenance of free beds.——By the will of the late Rev. Thomas Griffin, former pastor of St. John's Church, $10,000 is devised to St. Vincent's Hospital.——By the will of John Ashton, who died nearly half a century ago, the Massachusetts General Hospital will now receive more than $20,000. The estate has been in litigation since the death of the testator in 1867.——By the will of Mrs. Sarah A. Matchett, Brookline, $50,000 is bequeathed to the McLean Hospital, Waverly, and $25,000 to the Massachusetts General Hospital, together with certain contingent bequests to the McLean Hospital.

NEVADA

Postgraduate Course in Washoe County.—Washoe County Medical Society took up the postgraduate course recommended by the American Medical Association, January 1. The society is divided into four classes, each class meeting once a week.

Personal.—Dr. John A. Ascher, Sparks, has been elected state senator from Washoe County.——Dr. William H. Hood, Reno, has returned from a six-months' trip around the world.——Dr. Lee T. Richie, formerly of Reno, has removed to Trinidad, Colo.——Dr. A. Parker Lewis, Reno, has been seriously ill with pneumonia followed by septicemia from an infected finger.——Dr. John A. Lewis, Reno, has returned after a year abroad.——Dr. Sydney Clarke, Tonopah, is reported to be dangerously ill in a sanatorium in California.

NEW YORK

Albany Hospital Loses.—Because Dr. Willis G. McDonald, who died a short time ago, forgot to put his signature to his will, thus making it worthless under the law, the Albany Hospital with which he was connected for so many years will lose a bequest of $50,000, and also his surgical instruments and library. The estate goes to his relatives.

Would Discontinue Directory.—At the annual meeting of the Medical Society of the County of Chemung, resolutions were adopted setting forth the loss to the Medical Society of the State of New York in publishing the Tri-State Medical Directory, and urging the discontinuance of the publication of the directory. The state society is declared to lose more than $6,000 each year in publishing the directory.

Personal.—Dr. Frederick S. Lee, New York City, has been appointed to the directorship of the department of physiology of Columbia University.——The ninetieth birthday of Dr. Alfred Mercer, the oldest practicing physician of Syracuse, was made the occasion of a complimentary party, tendered to him by the Syracuse Academy of Medicine, at which Dr. John L. Heffron presided as toastmaster. Dr. Albert E. Larkin, on behalf of the guests, presented Dr. Mercer with a handsomely-bound copy of the souvenir dining card, bearing his photograph, and signed by those present at the dinner.

New York City

Harvey Society Lecture.—The fourth lecture of the Harvey Society Course, delivered January 14, by Dr. Arthur R. Cushny of the University of London, is on "The Therapeutics of Digitalis."

High Birth and Low Death Rate.—During 1910 this city has recorded the lowest death rate since records have been kept, and also the highest birth rate. The lowest death rate from tuberculosis and typhoid fever and the lowest mortality among infants are also reported.

Herter Lectures.—The first of the six lectures on "The Irregularities of the Heart," given under the Herter Foundation of the University and Bellevue Hospital Medical College, was delivered by Dr. Arthur R. Cushny of the University of London, January 9, at the Carnegie Laboratory.

Hospital Buys Property.—The Presbyterian Hospital has added to the site for the new hospital buildings twelve and one-half lots just west of the property acquired and immediately north of the site on which the buildings of the Rockefeller Institute for Medical Research have been erected.

Officers of the New York Neurological Society.—The following officers were elected for the year 1911: president, Dr. L. Pierce Clark; vice-presidents, Drs. Smith Ely Jelliffe and Dr. Edward W. Scripture; corresponding secretary, Dr. J. Ramsay Hunt, and recording secretary and treasurer, Dr. Edwin G. Zabriskie.

Dr. Alexander's Death.—The Medical Board of Bellevue Hospital, at its meeting, January 1, recorded on its minutes the removal by death of Dr. Samuel Alexander, who had been connected with the hospital from the time of his graduation until his death, and bearing testimony to Dr. Alexander's ability as a surgeon, and earnest, sympathetic and noble qualities as a man.

Injunction Against Expulsion.—The New York County Medical Society recently expelled Dr. Robert Kunitzer and Dr. Louis Anton Ewald for falsification of the Sydenham Hospital records. Dr. Ewald has asked the Supreme Court to continue a temporary injunction restraining the Board of Censors of the County Medical Society from taking action toward expelling him.

Donation to Medical School and Hospital.—A gift of $1,300,000 has been pledged for the perfection of the affiliation of the Presbyterian Hospital and the medical school of Columbia University. The gift was made through Edward H. Harkness, and is believed to have come from members of his family. He himself contributes $300,000 for the erection of a surgical pavilion to be equipped with modern appliances and also a complete laboratory for advanced research work.

Reorganization of Health Department.—Dr. Ernest J. Lederle, commissioner of health, in a talk before the City Club, January 7, outlined the work of the department for the last year and detailed his plans for the coming year. One plan is the reorganization of the department on lines to increase its efficiency. This will include the question whether the commission of sanitary inspectors of the various boroughs will have charge of certain functions or whether full power will be centered in the commissioner.

Christmas Gifts for Hospitals.—The Hospital Saturday and Sunday Association, which helps to maintain forty-five hospitals of this city has asked for a fund of $200,000 this year as a Christmas donation. Of the 79,132 persons cared for in these hospitals during the past year, 42,484 received free treatment. The annual expenditures of these hospitals are in nearly every case larger than their receipts and the cost of maintaining a patient has increased from $1.17 daily per capita ten years ago to $2.06 at present.

Personal.—The appointment of Dr. Daniel Potter as director of the new board of ambulance service has been approved by the municipal civil service commission.——Dr. Simon Flexner, who was operated on for appendicitis at the Presbyterian Hospital, December 5, has entirely recovered and has left the hospital.——Dr. Theodore C. Janeway has resigned from the City Hospital Board.——Dr. Ernest J. Walker, Fordham Hospital, was recently injured in a collision between an ambulance and a street car, and as the result of the injury was obliged to have his arm amputated.

To Conserve Eyesight.—At a meeting of physicians and laymen at the United Charities Building a National Association for the Prevention of Blindness and the Conservation of Eyesight was formed. In addition to the conservation of eyesight the association will interest itself in social purity, the prevention of infant mortality and the safeguarding of industrial occupations. National and state medical associations, educational and commercial bodies, labor organizations, women's clubs and other societies dealing with social problems will be invited to cooperate with the new association. Dr. F. Park Lewis of Buffalo was elected Chairman of a Board of Directors to be named in the near future.

Accidents to Children.—There were seventy-six children of school age killed last year in street accidents. The National Highways Protective Association says that 40 per cent. of these accidents were due to the carelessness of the children or their ignorance of the conditions of street traffic. This society caused warnings to be printed and posted and to be read in the schools. The German newspapers printed the notice and commented on it, bringing it forcibly to the minds of parents and it is stated that in no instance was a German child maimed or killed. The necessity of teaching children to care for themselves in the streets should be brought to the attention of teachers and parents. The school masters of Boston have formed a committee of Prevention of Street Accidents to Children and are considering the most feasible ways of incorporating into the minds of the older children a sense of responsibility for younger ones.

Public Health Lectures.—A series of lectures which form part of the New York work of the Public Health Education Committee of the American Medical Association was inaugurated January 12, under the auspices of the Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs. The lectures are to be given alternate Thursday afternoons and Wednesday evenings, and two, three or four lectures are to be given at each session. On January 12, the session was devoted to Home Hygiene; that of January 18 will consider Industrial Hygiene; January 26, the Cause and Prevention of Some Common Diseases; February 1, Insect-Borne and Water-Borne Diseases; February 9, Pure Milk and Infant Hygiene; February 15, Public Hygiene; February 26, The Health of the School Child; March 1, Congenital and Acquired Deformities and Their Prevention; March 9, Mental Hygiene; March 15, Alcohol and Meat in Relation to Disease; March 23, Health of Women, in Youth and Maturity; and March 29, The Care of the Eyes. The use of Hosack Hall has been offered through the courtesy of the Council of the New York Academy of Medicine.

PENNSYLVANIA

Personal.—Dr. George R. Vernon has resigned from the presidency of the Board of Health of Clifton Heights.——Dr. William T. W. Dickenson, of Media, one of the oldest physicians in Delaware County, celebrated his eighty-third birthday anniversary, January 5.

War on Food Adulterations Successful.—Statistics compiled by James Foust, of the State Food and Dairy Commission, show that the campaign against food adulterations has diminished greatly the number of infractions of the law. During the year special agents purchased and the chemists analyzed 5,594 samples of food products. Prosecutions for adulterations misbranding, departure below standard and other infractions of the food laws were terminated in 621 cases; 231 were oleomargarin cases, seventy milk cases and sixty-two ice cream cases. The fines and costs imposed by the courts in these cases amounted to $30,405.92, of which those for the violation of the oleomargarin law amounted to $15,456.92.

Officers Elected.—At the November meeting of the Washington County Medical Society, the following officers were elected: president, Dr. Robert E. Conner, Hickory; vice-president, Dr. Joseph W. Hunter, Charleroi; secretary-treasurer, Dr. John B. Donaldson, Canonsburg; and censors, Drs. Olic P. Dearth, William J. L. McCollough, both of Washington, and John H. Carey, Prosperity.——At the meeting of the Somerset County Medical Society, held at Meyersdale, October 18, the following officers were elected: president, Dr. Maurice Stayer, Rockwood; vice-president, Dr. Henry I. Marsden, Somerset; financial secretary, Dr. Henry Hertzler, Jenners; secretary, Dr. Henry C. McKinley, Meyersdale, and treasurer, Dr. Walter S. Mountain, Confluence.

Philadelphia

Hospital Does Not Need State Aid.—The St. Agnes Hospital has notified the State Board of Charities that it will not apply for an appropriation from the legislature, because the bequest of $70,000 of James I. McCauley, who died in that hospital four years ago, will become operative during the present year. Its last biennial appropriation was $50,000.

College of Physicians Election.—The following officers and elective committees were chosen at the January 4 meeting of the College of Physicians of Philadelphia to serve for the year 1911: president, Dr. George E. de Schweinitz; vice-president, Dr. James C. Wilson; censors, Drs. Richard A. Cleeman, S. Weir Mitchell, Arthur V. Meigs and James Tyson; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry, and councilors, Drs. Francis X. Dercum and William T. Shoemaker.

Housing Commission Committee Appointed.—At a conference of the Philadelphia Housing Commission, held on December 15, in the Mayor's office in the City Hall, it was decided to appeal for better legislation in the campaign to improve conditions in the congested city districts. The following committee was appointed to prepare a bill for presentation in the legislature: Dr. Richard H. Harte, Mrs. Hannah Fox, Dr. Charles J. Hatfield, Mrs. B. Weston, Dr. Frances C. Van Gasken, Montgomery Harris, F. S. Hall, Dr. Samuel Furbish and Mrs. Wendel Reber.

Gift to the University.—It was announced on January 4, that on December 31, the last day of Mr. C. C. Harrison's provostship, he received a gift of $100,000 from an alumnus of the University of Pennsylvania, to endow the chair of physiologic chemistry in the Medical School. The donor of the fund, who has requested that his name be withheld, has asked that the new chair be called "The Benjamin Rush Chair of Physiologic Chemistry." Dr. Alonzo E. Taylor, who was called from the University of California last fall, to occupy the chair of physiologic chemistry, will become the Benjamin Rush professor.

Officers Elected.—At a December meeting of the West Philadelphia Medical Association, the following officers were elected to serve for 1911: president, Dr. Hiram L. Lutz; vice-president, Dr. Charles P. Pike; corresponding secretary, Dr. Henry G. Munson; financial secretary, Dr. Walter M. Miller; treasurer, Dr. Edmund L. Graf; board of directors, Drs. Aaron L. Bishop, Benjamin F. Wentz, Christian B. Longenecker, Arthur E. Bogart, A. Wiese Hammer, George M. Astley, George C. Shammo, Charles H. Wallace, William S. Newcomet, Sherman F. Gilpin and F. Mortimer Cleveland.——At the annual meeting of the South Branch of the County Medical Society, held on December 30, Dr. Stuart C. Runkle was made president; Dr. William N. Bradley, vice-president and delegate to the Philadelphia County Medical Society, and Dr. Paul B. Cassidy, secretary, all of Philadelphia.

Personal.—Dr. David L. Edsall, professor of medicine in the University of Pennsylvania, has resigned and accepted the professorship of preventive medicine in Washington University, St. Louis.——Dr. Arthur C. Sender has been appointed chief of the *x*-ray department in St. Joseph's Hospital.——Dr. Max F. Herrman has been appointed to the out-patient gynecologic staff of St. Joseph's Hospital.——Drs. W. A. Newbold, Francis Stover and Howard L. Hull have been appointed to the out-patient medical staff of Jefferson Medical College Hospital.——Dr. Philip J. Conlon, a resident physician in the Germantown Hospital for the past year, left that institution on January 4, to take a similar position at St. Agnes Hospital. He is succeeded by Dr. C. B. Mack.——Dr. Simon Wendkos, superintendent of Mount Sinai Hospital, resigned January 7, to take effect on March 1. He will go to Berlin where he will take a special course in medicine and surgery.

TEXAS

Society Meetings.—At the annual meeting of the South Texas District Medical Association, held in Port Arthur, December 8, Dr. Wilbur E. Thomson, Beaumont, was elected president; Dr. Howard R. Dudgeon, Galveston, vice-president; Dr. Edward F. Cooke, Houston, secretary-treasurer (reelected). The next meeting will be held in Galveston in July, 1911.——The Fifth District Medical Society, at its semi-annual meeting in San Antonio, elected the following officers: president, Dr. Evarts V. DePew, San Antonio; secretary, Dr. Ferdinand C. Walsh, San Antonio; and treasurer, Dr. Louis G. Wille, New Braunfels (reelected).——At the annual meeting of the Fourth District Medical Society in San Angelo, Dr. T. Richard Sealy, Santa Anna, was elected president; Dr. J. Ernest Robinson, Brownwood, secretary-treasurer; and Coleman was selected as next place of meeting.——At the annual meeting of the El Paso Medical Association, December 5, Dr. Henry F. Safford was elected president; Dr. Harry H. Stark, vice-president and editor of the bulletin; Dr. R. Irvin McNeil, secretary-treasurer; and Dr. William H. Pickles, censor.——The Big Springs-El Paso Medical Society held its annual meeting in Sweetwater, recently, and elected the following officers: president, Dr. Newton J. Phenix, Colorado; vice-president, Dr. John W. Overton, Sweetwater; and secretary-treasurer, Dr. Granville T. Hall, Big Springs.——At the annual meeting of the Taylor County Medical Society, held in Abilene, December 6, Dr. Manton M. Carrick, assistant superintendent of the State Epileptic Colony, was elected president; Dr. Marion Armstrong, Merkel, vice-president and censor; and Dr. J. M. Estes, Merkel, secretary-treasurer. The members of the society were guests of Dr. James M. Alexander at a dinner. Dr. M. M. Carrick presided as toastmaster.

VIRGINIA

New Secretary of State Society.—Dr. Paulus A. Irving, Farmville, has been elected secretary of the Medical Society of Virginia, vice Dr. Laudon B. Edwards, deceased.

Expectorators Fined.—As a result of the crusade of the Norfolk Board of Health against spitting on sidewalks, fines of two dollars each were assessed against a negro and a white man recently.

Hospital Notes.—The Southern Hospital and Dispensary Company has been incorporated at Richmond with capital of $50,000.——Fire at Catawba Sanatorium, the State Tuberculosis Camp, destroyed a building causing damage of $800.——The resident physician at Catawba Sanatorium announces that ninety-five patients are now under treatment at the hospital.

Medical Fraternity Election.—The eighteenth annual meeting of the Centrum Ovale of the Pi Mu National Medical Fraternity was held in Richmond, December 17. Dr. Paul W. Howle, Richmond, was elected senior councilor; Dr. Charles M. Byrnes, Charlottesville, junior councilor; Dr. Francis W. Upshur, Richmond, calamus scriptorius; Dr. Lawrence T. Price, Richmond, calyx; Dr. Wallace D. Carr, Richmond, librarian, and Dr. N. Thomas, Richmond, editor of the annual.

GENERAL NEWS

Journal Becomes Monthly.—The general manager of the Rockefeller Institute for Medical Research announces that the *Journal of Experimental Medicine* begins its thirteenth volume as a monthly instead of a bi-monthly as heretofore. Two volumes will be issued each year, without change in the price of subscription. Dr. Benjamin T. Terry has succeeded Dr. Eugene L. Opie as the associate of Dr. Simon Flexner in the editorial control of the magazine.

New England Alumni Meet.—The New England Association of the New York Medical College held its eighth annual meeting and banquet in the Parker House, Boston, December 13, and elected the following officers: president, Dr. Elgin W. Jones, Lynn, Mass.; vice-presidents, Drs. Ira. J. Prouty, Keene, N. H.; Albion S. Whitmore and Charles O. Thompson, both of Boston; secretary, Dr. J. Henry Woods, Brookline, Mass., and treasurer, Dr. James H. Stuart, Boston.

Interstate Meetings.—At the annual business meeting of the Marinette (Wis.) and Menominee (Mich.) Medical Society, December 14, Dr. Calvin R. Elwood, Menominee, was elected president; Dr. David R. Landsborough, Daggett, Mich., vice-president, and Dr. Earl V. McComb, Menominee, secretary-treasurer.——The Society of Missouri and North Arkansas Surgeons held its annual meeting in Helena, December 14, and selected Heber Springs as the next place of meeting.

The following officers were elected: president, Dr. Hugh L. Routh, Batavia, Ark.; vice-presidents, Drs. S. A. Russell, Fairview, Mo.; Clifford H. Trotter, Helena, Ark., and William B. Snipes, Spring Creek, Ark., and secretary, Dr. Tillman B. Bradford, Cotton Plant, Ark.

CANADA

Sanitarium Fire.—Fire did $50,000 damage to the Homewood Sanitarium at Guelph, Ont., January 6. All the inmates were removed safely and found accommodation in a private residence adjoining the sanitarium.

Dominion Society to Meet.—The forty-fourth annual meeting of the Canadian Medical Association will be held in Montreal during the first week of June, 1911, immediately following the official opening of the new McGill medical buildings.

Increase of Cancer in Ontario.—During the seven years up to and including 1908 8,769 persons of all ages died in Ontario from various forms of cancer. In 1902 the number was 1,048; 1903, 1,156; 1904, 1,253; 1905, 1,224; 1906, 1,411; 1907, 1,329, and 1908, 1,348.

Montreal Medical Journal Announces Its Discontinuance.—Having just issued its December number, the *Montreal Medical Journal* announces that it will cease publication, as it has been acquired by the Canadian Medical Association as its official organ. The title of the new journal is somewhat in doubt as "The Canadian Medical Journal" infringes on the title of one of the other medical journals of Canada. The history of medical journalism in Montreal is given from 1844 when the *Montreal Medical Gazette* came into existence, up to the present time.

Personal.—Dr. W. B. Kendall, superintendent of the Muskoka Cottage Sanatorium, Gravenhurst, has gone to Europe to study the latest phases of the tuberculosis problem.——Dr. Joseph E. Laberge, chief of the infectious diseases department, Montreal, has been appointed a member of the Board of Health of the Province of Quebec.——Dr. Charles H. Vrooman, Winnipeg, formerly in charge of the Manitoba Sanatorium for Consumptives, Ninette, has been appointed superintendent of the Tranquille Sanatorium in British Columbia.——Dr. James T. Rogers, Montreal, has returned from Europe.

Tuberculosis in Ontario.—From the published report of the Registrar-General for Ontario, which has just been issued for the year 1908, it is seen that tuberculosis is declining materially in the province of Ontario. The largest number of deaths from this disease in any one year was that of 1900, when the total was 3,484. In 1901 the number was 3,284; 1902, 2,694; 1903, 2,723; 1904, 2,877; 1905, 2,667; 1906, 2,911; 1907, 2,530; 1908 2,511—a decrease in the eight years of 973. The death rate from tuberculosis in Ontario per 1,000 of the estimated population is 1.12; in the city group, it is 1.43; in the town group, 1.17; for the balance of the province, 1.002.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 31, 1910.

The Destruction of Rats

The epizootic of plague among rats in Suffolk, accompanied by four cases in man and occasional imported cases of plague observed in the London docks, which have been reported in previous letters to The Journal, have led to great activity in the destruction of rats. The Board of Agriculture and Fisheries has issued a leaflet on the destruction of rats. Of poisons, barium carbonate is recommended as the cheapest and best. It causes thirst and therefore induces the rats to seek water in the open, where they die. It may be used in the proportion of one part to four parts of meal mixed into a dough with water, or may be spread on fish or moist toasted bread. It is added that if rats find that any of their fellows die after eating any kind of food they avoid such food for some time, so that it is generally necessary to vary the form and appearance of the bait. With regard to rat virus the results are found to be uncertain, owing partly to difficulty of securing successful infection in all cases, and partly to the fact that if only slightly infected, rats recover and become immune to the disease. When it is desired to exterminate the rats in a district all methods—hunting, trapping and poisoning—should be used and the attack made in a circle radiating from a spot in which it is considered that the final work of destruction can be accomplished with the least difficulty.

Salvarsan in England

As in all civilized countries, salvarsan, or "606," has become a burning topic, not only in the profession, but in lay circles, and has been the subject of a long article in the *Times*, a journal in which such a technical as well as objectionable (from the lay standpoint) subject as the treatment of syphilis is very much out of place. Considerable difference of opinion exists as to the value of the new remedy. Mr. McDonagh, surgeon to the London Lock Hospital, who has had by far the greatest experience with it in Great Britain, reports favorably on it and endorses all the claims made by Ehrlich. In all stages of syphilis rapid recovery followed a single injection. He has treated 130 cases, in only three of which recurrence took place, two of these patients being cured by a second injection; only five patients did not respond at all. Lichen syphiliticus, which is most resistant to mercury, was cured by a single injection. Malignant syphilis associated with tuberculosis was improved beyond recognition. In nerve paralysis from syphilitic meningitis almost complete power of the muscles was regained. In one case of tabes the Argyll-Robertson pupils disappeared and the knee-jerks returned, and also morning erections which had been absent for years. However, out of seventeen patients with tabes only three improved so much that the lightning pains disappeared. General paralysis in the early stage improved considerably.

On the other hand, Mr. Ernest Lane, another specialist, declares that his results have been no better than he would have expected from mercury. One patient with syphilitic ulceration improved temporarily, but soon relapsed; another injection was followed again by improvement and another relapse, the ulcer spreading to twice its former size. In one case hyperpyrexia followed the injection for ten evenings.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 23, 1910.

The Lannelongue Prize

The Lannelongue prize, which consists of a gold medal and the sum of $1,000 (5,000 francs), to be awarded every five years (The Journal, April 3, 1910), has just been awarded for the first time. Sir Victor Horsley of London is the first recipient.

The New Director of the School of Pharmacy

Professor Guignard, who desires to devote himself hereafter solely to scientific work, has requested the minister of public instruction to relieve him of the directorship of the higher school of physiology and pharmacy, which he has carried on for about fifteen years, having succeeded Professor Planchon. The faculty of the school has unanimously elected a new director, M. Henry Gautier, professor of inorganic chemistry at the school.

Personal

On December 20, the Académie de médecine held its annual election, Professor Lannelongue, the vice-president, assuming the presidency of right. Dr. Gariel, professor of medical physiology at the Paris medical school, was elected vice-president, and Drs. Weiss and Henriot were elected secretary and treasurer, respectively.

Relief of Foreign Paupers

M. Emil Loubet, former president of the republic, as president of the Association internationale d'assistance publique et de bienfaisance privée, has asked the government to invite the powers to a diplomatic conference to arrange a treaty in regard to the relief of foreign paupers in conformity with the resolution adopted by the Congress of Copenhagen (The Journal, Sept. 10, 1910, p. 956). The conference will probably be held in Paris, the headquarters of the association.

Civil Responsibility of the Surgeon

A patient who was operated on at the Beaujon hospital by Dr. Bazy for an ovarian cyst brought suit against the surgeon for $10,000 (50,000 francs) damages for having left in the cystic cavity two compresses which finally penetrated into the rectum and were eliminated by the anus. The court recognized that Dr. Bazy had been at fault, but as it was established that the present condition of the patient had no relation with this fact, and that at the time of her admission to the hospital, her health and even her life had been in great danger, and as it was impossible to overlook the fact that the plaintiff probably, not to say certainly, owed her life to Dr. Bazy's intervention, the court reduced the amount of damages to $1,000 (5,000 francs).

Dr. Bazy has appealed from the decision and has laid the question before the Société des chirurgiens des hôpitaux de Paris, in the following form: 1. Is it scientifically possible, assuming that compresses were left in a cyst in the course of operation, that this cyst, which was malignant according to experts, might, whether spontaneously, through its epithelial nature, or secondarily by the presence of the compresses, have ulcerated or caused the ulceration of the intestine so as to permit the passage of two compresses, measuring a meter in length by 30 centimeters in thickness (about a yard long by about 12 inches wide), without having caused any stercoral fistula? 2. This decision would constitute a precedent which would encourage fraud and would threaten professional independence. Is it not most desirable that the society should take measures to free surgery from this handicap? To study these questions, the society has appointed a commission, composed of Dr. Sagond, president of the société des chirurgiens des hôpitaux, Dr. Nélaton, representative of the same society on the *conseil de surveillance* of the Public Charities, Dr. Routier, president of the Société de chirurgie, Drs. Delbet and Quénu and Professor Reclus, one of the three experts in the case (added to the commission at his own request).

Premiums with Medical Journals

Up to the present, certain lay journals have been the only ones which have offered premiums for subscriptions. Recently, the first number of a new weekly journal of medicine, called *Paris Médical*, published under the direction of Prof. A. Gilbert, has offered premiums "worth several times the price of the subscription." A monthly medical periodical, announced to appear January 15, also offers premiums to the first 5,000 subscribers in France and all of the foreign subscribers. "Our premiums are not," says the advertisement, "such worthless trifles as paper-knives and blotters; they are worth at least the price of the *Æsculape*, and most of them are worth much more." This new and curious phase of medical journalism cannot be too much deplored.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 16, 1910.

Personals

Prof. Franz König, the distinguished surgeon, died at Berlin, December 12, aged 78. König was one of those whose researches secured the development of modern surgery. Endowed with keen powers of observation and an inventive mind, he early recognized the significance of antisepsis and asepsis and enriched surgical pathology with a series of important observations and in his classical demonstrations became a model for scientific study and teaching. Diseases of the bones and joints were prominent subjects of his study. He also did good work in the course and results of wounds of the lung, stenosis of the rectum, tracheotomy in croup, the operation for congenital dislocation of the hip, etc. His large three-volume text-book of special surgery monopolized the book market for a long time and has only lately been somewhat approached by other text-books. It is remarkable that König without having joined any faculty was chosen on the ground of his literary publications in 1869 as regular professor of surgery at Rostock. A few years after his service in the Franco-Prussian war he was called to Göttingen where he worked for twenty years. When Langenbeck resigned as director of the surgical clinic in Berlin, König received a call as his successor, but declined on account of his health. However after the death of Bardeleben he accepted charge of the surgical clinic at the Charité in Berlin. Here he performed a great service in the rebuilding of the surgical clinic. After he had performed this task he resigned his position in 1904 while still fully capable of service. König possessed the fullest confidence both of the medical profession and of his clientele, owing to his strong personality and his completely reliable character. In criticism he was sharp and merciless, but under his rough exterior was hidden deep feeling.

Professor Riess, former assistant of Frerichs and for many years director of the internal medicine department of the hospital at Friedrichshain, celebrated his seventieth birthday December 15.

Dr. Kurz, privat-docent at Heidelberg, has been appointed director of the institute for legal medicine at that place.

Robert Koch Memorial

On December 10, a mausoleum for Robert Koch was opened in the institute for infectious diseases of which he was director for many years. It was formed from some rooms of the institute. The funds for the rebuilding, amounting to about $5,000 (20,000 marks), were contributed by his many pupils and friends. The mausoleum consists of two rooms, the first a small antechamber in which some of the scientific instruments used by Koch, his numerous domestic and foreign honorary diplomas, models of the medals awarded to him, and other memorials of his life are placed. Here also is the so-called "golden book" of the Robert Koch Foundation for the War on Tuberculosis that contains in an artistic setting the history of the foundation and the autographs of the larger contributors to the fund including the Kaiser, Andrew Carnegie, Prince von Donnersmarck, the representatives of the cities of Berlin, Charlottenburg, Hamburg, Bremen, etc. In the special memorial hall, in a niche that is closed with a white marble slab, is placed the urn that contains the ashes of Robert Koch. The walls and floors are all of marble. Over the niche for the urn is a marble tablet on which is a portrait of Koch in relief, larger than life size, and on the opposite wall the chief dates of Koch's life are engraved.

December 11 the special memorial service took place in the new hall of the university. The large hall which seats about 1,500 persons was filled with a mourning throng which included many physicians, especially members of the Berlin medical faculty, representatives of the government and the chief German medical faculties and representatives of many medical societies as well as of foreign universities and societies. Of his relatives there were present his son-in-law, Professor Pfuhl, his brothers and sisters, his widow and others. On the other hand, his daughter by his first wife did not appear, probably on account of the family difficulties which arose in connection with the divorce of his first wife and marriage to his second wife, who, as is well known, was before her marriage a member of an operetta troupe. The memorial address was delivered by Professor Gaffky who was for many years a pupil of Koch and is his successor as director of the institute for infectious diseases. The musical part of the memorial service, which was rendered by distinguished talent, was a great factor in the profound impression produced by the entire memorial.

Fourth International Congress for Thalassotherapy

A few days ago there occurred a session of the German imperial commission for the fourth international congress for thalassotherapy which is to assemble in June, 1911, at Kolberg, the Baltic seashore resort. The transactions showed that the preparations for the congress are making the best of progress and promise a very successful meeting especially in scientific lines. The congress is to consider the success and limitations of sea bathing as a therapeutic agent. Especial contributions will be offered by the Prussian institute for oceanology on the physical properties of sea water, e. g., its different and varying content in salts at the individual watering places. On the climatic conditions of the bathing resorts on the North Sea and the Baltic information will be furnished by the meteorologic institute.

Third International Congress for Infant Hygiene

The empress has assumed the protectorate of the congress to be held in Berlin, Sept. 11-13, 1911, and the imperial chancellor has accepted the chairmanship of the honorary committee. Following the congress there will be a visit to the international exposition of hygiene at Dresden which, to judge from the great style in which the preparations are being carried out, will be of unusual importance.

Hospital Provision in Prussia

According to the official review recently published, the number of general hospitals in Prussia in 1908 amounted to 2,203 with 147,737 beds; 1,167,000 patients were given about 35,500,000 days' care. For every 10,000 inhabitants, there were in 1908 38.4 beds and 303.35 patients against 38.33 beds and 293.20 patients for 1907.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 17, 1910.

Protests Against Proposed Legislation

As I wrote in a previous letter, the plan of establishing a special committee for the purpose of controlling the charitable institutes has aroused a vehement burst of indignation on the part of the medical profession. Not only have the medical councils protested against an arrangement to which the profession was not a part, but the directors and professors of the Austrian hospitals and clinics have also called the attention of the public and the government to the fact that such an undertaking would be answered by them with a resignation of all posts. This was brought to the knowledge of the ministry of education by a deputation through which the clinical professors demanded freedom and independence for their scientific research. The plan has now been so changed that only the financial transactions will be handed over to the various diets (of states) while the other grievances shall form the subject of negotiations between the factors concerned. One of the principal demands of the medical circles is that politics and religion shall have no bearing whatever on the appointment of the staff and that recommendations by the hospital staff as regards appointments and scientific equipment shall have the first consideration.

Marriages

Felix S. Jenkins, M.D., to Miss Regina Randolph, at Baltimore, December 26.

Marion Dillon, M.D., Fairfield, Mo., to Miss Ethyl Kahl of Windsor, Mo., recently.

Alois F. Juettner, M.D., to Miss Cora K. Amann, both of Cincinnati, December 27.

Carl C. Stevens, M.D., to Miss Hazel Arnold, both of Sharon, Wis., December 27.

Mark F. Hopkins, M.D., to Miss Hazel M. Wintringer, both of San José, Cal., December 20.

William B. Linton, M.D., to Miss Florence L. Whitney, both of Minneapolis, December 14.

Robert Gaylord Davis, M.D., Des Moines, Ia., to Miss Vera Hartley of Durand, Ill., December 27.

Oscar M. Owensby, M.D., to Miss Bessie Myrtle Frazier, both of Pittsburg, Kan., December 31.

James B. Martin, M.D., Traverse City, Mich., to Miss Mabel Bullock of St. Joseph, Mo., December 20.

Wallace Bruce Smith, M.D., U. S. Navy, to Miss Louise Blake, at San Mateo, Cal., December 21.

James L. Lynch, M.D., Winona, Minn., to Miss Nora J. Guidinger of St. Charles, Minn., December 28.

James Albert Sullivan, M.D., East St. Louis, Ill., to Miss Ethelynne P. Weisert of Vincennes, Ind., May 25.

Frank Marion Sprague, M.D., Seattle, Wash., to Miss Ethelinda Ireland of Pocatello, Ida., December 29.

George Edward Chappell, M.D., to Mrs. Isobel Brown, both of Grass Valley, Cal., at San Francisco, December 23.

Leroy Spangler Howard, M.D., Harrisburg, Pa., to Miss Myrtle Ada Snyder of Loganville, Pa., December 22.

James Dawson Reeder, M.D., Baltimore, to Miss Anne Carey Gourley, at Holland's Point, Md., December 30.

William S. Crouch, M.D., Stafford, Kan., to Mrs. Ella Pennington of Ashland, Ky., at Herrin, Ill., December 8.

Marshall Dickson Cornell, M.D., to Miss Susie Cherry, both of Sallisaw, Okla., at Fort Smith, Ark., December 26.

Theodore H. Trappe, M.D., Hecker, Ill., to Miss Lela Mannen of Waltonville, Ill., at Mount Vernon, Ill., December 29.

William M. Davis, M.D., South Omaha, Neb., to Miss Lorene Emery of Lincoln, Neb., at Mynard, Neb., December 26.

Mary Coffield Smith, M.D., Grand Rapids, Mich., and William Waldemere Von Baumgartner of Frankfort-on-the-Main, Germany, December 28.

Deaths

David Sherwood Kellogg, M.D. University of Vermont, Burlington, 1873; a charter member and trustee of the Northern New York Medical Association; a member of the Medical Society of the State of New York; pension examiner at Plattsburg from 1883 to 1900; health officer of the city from 1878 to 1880; on various occasions acting assistant surgeon U. S. Army at Plattsburg Barracks; a veteran of the Civil War; a trustee of the State Normal School and Public Library; died at his home in Plattsburg, December 19, aged 63.

William Smith Janney, M.D. Pennsylvania Medical College, Gettysburg, 1854; Jefferson Medical College, 1880; assistant surgeon of the Twenty-First, and surgeon of the Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; a veteran of the Indian Border War in Kansas in 1856; coroner of Philadelphia in 1880; for sixteen years surgeon of the Philadelphia Hospital, and for twenty years to the Girard College Hospital; died at his home in Philadelphia, December 24, from heart disease, aged 78.

Carl Heinrich Kroeber, M.D. Dartmouth Medical School, Hanover, N. H., 1895; College of Physicians and Surgeons, New York City, 1896; of Yonkers, N. Y.; vice-president of the Jenkins Medical Society; a member of the staff of St. Joseph's Hospital, Yonkers; since 1902 a medical officer of the National Guard of New York, and assigned to the Tenth Infantry; died at the Loomis Sanatorium, Liberty, N. Y., December 12, from tuberculosis, aged 41.

Damon S. Cummings, M.D. Northwestern University Medical School, Chicago, 1876; a member of the American Medical Association; for six years mayor and for twenty-five years president of the School Board of Waseca, Minn.; for two terms superintendent of schools of Waseca County; a member of the board of control of the State School for the Indigent, Owatonna; died in St. Luke's Hospital, St. Paul, December 25, aged 60.

James Swinburne Hopkins, M.D. New York University, New York City, 1882; a member of the Medical Society of the State of New York and New York Academy of Medicine; formerly professor of ophthalmology in the New York College of Veterinary Surgeons, and assistant surgeon to the New York Ophthalmic and Aural Institute; died at his home in New York City, December 19, from chronic meningo-encephalitis, aged 51.

Isaac Prince, M.D. Hahnemann Medical College, Chicago, 1878; for ten years a missionary in Jamaica; a chaplain during the Civil War; for several years assistant superintendent of the Foundlings Home, Chicago; founder of the Home for Destitute Crippled Children, and instrumental in establishing the first three day nurseries in Chicago; died in the Church Home for Aged People, Chicago, January 2, from pneumonia, aged 76.

Willis Horton Pratt, M.D. University of Michigan, Ann Arbor, 1869; of Stillwater, Minn.; a veteran of the Civil War; for several years prison physician, coroner and physician of Washington County, and city physician; for one term a member of the legislature; for ten years president of the local pension board; died at his home, December 15, from uremia, aged 76.

John W. Blanton, M.D. Hospital College of Medicine, Louisville, 1884; a member of the Kentucky State Medical Association, and formerly president of the Jefferson County (Ky. Medical Society, and Jefferson County Milk Commission; died tion, and formerly president of the Jefferson County (Ky.) December 26, from cerebral hemorrhage, aged 58.

Eben Hillyer, M.D. Jefferson Medical College, 1854; major and surgeon in the Confederate service during the Civil War; later a practitioner of Rome, Ga., and since 1885, president of the Rome Railroad; died at his home in Rome, December 19, from the effects of shock following a fall, in which he sustained a fracture of a leg and internal injuries, aged 78.

James Atwood Crowell Milliken, M.D. Medical School of Maine, Brunswick, 1910; intern in the Western Washington Insane Hospital, Fort Steilacoom; a member of the Kappa Sigma Fraternity and Phi Chi Medical Fraternity; died at his home in New Bedford, Mass., December 29, from lymphatic leukemia, aged 25.

Edward Storror, M.D. University of Pennsylvania, 1863; a surgeon of volunteers during the Civil War, and for several years thereafter a contract surgeon in the army; afterward special sanitary agent of the French government in Cochin, China; died at his home in Berkeley, California, December 3, aged 73.

Roscoe H. Goodrich, M.D. University of Vermont, Burlington, 1876; a member of the American Medical Association, and American Association of Railway Surgeons; local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home in Chamberlain, S. D., December 19, aged 56.

Edward Page Granville Holderness, M.D. Missouri Medical College, St. Louis, 1860; Bellevue Hospital Medical College, 1875; consulting surgeon to St. Joseph's Hospital Bloomington, Ill.; of Chenoa, Ill.; died in Chicago Heights, Ill., January 1, from bronchopneumonia, aged 78.

Harrie William Moellering, Jr., M.D. Toledo (O.) Medical College, 1909; of Goshen, Ind.; a member of the Goshen Medical Society; while crossing a railway track near Goshen in his automobile, December 29, was struck by an express train and instantly killed, aged 28.

Andrew Judson Ervey, M.D. Rush Medical College, 1874; a member of the Michigan State Medical Society; a veteran of the Civil War; while crossing the railway track at his home in Wheeler, December 26, was struck by a passenger train and instantly killed, aged 65.

Walter J. Wait, M.D. Washington University, St. Louis, 1880; formerly coroner of St. Louis, but of late a practitioner of Joplin, Mo.; died at the home of his father-in-law in St. Louis, December 6, from amyloid disease of the kidney, aged 51.

Ira E. Cox, M.D. Central College of Physicians and Surgeons, Indianapolis, 1895; a member of the Indiana State Medical Association; formerly a practitioner of Indianapolis; died at his home in Goldsmith, Ind., December 20, from septicemia, aged 42.

John K. Hertz, M.D. Pennsylvania Medical College, Gettysburg, 1860; a member of the Medical Society of the State of Pennsylvania; a school director of Lexington; died at his home in that place, December 28, from valvular heart disease, aged 78.

Elsa M. Meador, M.D. Eclectic Medical Institute, Cincinnati, 1887; a member of the Kentucky State Medical Association; of Drake, Ky.; died in St. Joseph's Hospital, Bowling Green, Ky., December 14, from tuberculosis of the hip, aged 50.

William Powell Gordon, M.D. Washington University, St. Louis, 1867; Missouri Medical College, St. Louis, 1875; a member of the American Medical Association; died at his home in Carlyle, Ill., October 10, from cirrhosis of the liver, aged 66.

Samuel P. Smith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901; formerly of Cornelia, Ga.; president of the Ocmulgee Medical Association; died in a sanitarium in Atlanta, December 12, from cerebral hemorrhage, aged 39.

Osman Royal, M.D. Boston University School of Medicine, 1885; of Portland, Ore.; formerly president of the State Medical Board; died suddenly in that city, while watching a football match, December 31, from heart disease, aged 54.

Jonas Hoover (license, Nebraska, 1891); Ensworth Medical College, St. Joseph, Mo., 1892; of Waverly, Neb.; for thirty-seven years a practitioner; died in the Everett Sanitarium, Lincoln, Neb., December 17, from nephritis, aged 71.

John W. Pitts, M.D. University of Pennsylvania, 1867, a member of the Medical and Chirurgical Faculty of Maryland; a Confederate veteran, and first mayor of Berlin; died at his home, December 27, from pneumonia, aged 69.

John Aloysius Hemsteger, M.D. Chicago Homeopathic Medical College, 1890; and formerly professor of materia medica in his alma mater; died suddenly at his home in Chicago, January 5, from cerebral hemorrhage, aged 56.

Daniel Michael Driscoll, M.D. College of Physicians and Surgeons, New York City, 1900; a member of the American Medical Association; of Bridgeport, Conn.; died in St. Vincent's Hospital in that city, December 18, aged 33.

James B. Stephens, M.D. University of Nashville, Tenn., 1857; of Nashville; was thrown from his buggy in a collision with a taxicab, December 10, and died from his injuries five hours later in Dr. Fort's Infirmary, aged 76.

Herman F. Goetsch, M.D. Marquette University, Milwaukee, 1903; died at the home of his brother in Milwaukee, December 20, from the effects of cyanid of potassium, self-administered, it is believed with suicidal intent, aged 37.

William G. Gray, M.D. Washington University, St. Louis, 1862; for many years a practitioner of Greene County, Mo.; died at the home of his daughter in St. Louis, December 22, from disease of the intestine, aged 73.

Charles Stuart Maynard, M.D. Eclectic Medical Institute, Cincinnati, 1859; for fifty years a practitioner of Van Buren County, Mich.; died at his home in Paw Paw, December 23, from cerebral hemorrhage, aged 80.

John Joshua Martin, M.D. Keokuk (Ia.) Medical College, 1904; of McCausland, Ia.; who moved to Davenport in November last; died in the Davenport Hospital, December 19, from intestinal obstruction, aged 42.

George W. Stapleton, M.D. Missouri Medical College, St. Louis, 1857; for sixty years a practitioner of Albany, Mo.; died at the home of his son in that place, December 21, from cerebral hemorrhage, aged 86.

Alexander Stephens Dyar, M.D. Southern Medical College, Atlanta, Ga., 1883; for four years city physician of Atlanta; died at his home in New Orleans, December 23, from tuberculosis of the larynx, aged 48.

William Harvey Leach, M.D. Cincinnati College of Medicine and Surgery, 1861; a member of the Medical Society of the State of California; died at his home in Napa, November 22, from angina pectoris, aged 75.

Raymond W. Chamberlain, M.D. Washington University, St. Louis, 1909; of Fisher, Ill.; senior medical intern at the City Hospital, St. Louis; died in that institution, December 24, from typhoid fever, aged 27.

Rebecca Lippett Smith, M.D. Hygeio-Therapeutic College of New York, New York City, 1859; New York Free Medical College for Women, 1873; died suddenly at her home in Syracuse, N. Y., December 11.

Hugh Henry Haden, M.D. University of Nashville, Tenn., 1886; a member of the Medical Association of the State of Alabama; died at his home in Holly Pond, December 25, from heart disease, aged 50.

Isaac B. Yeakel, M.D. University of Pennsylvania, 1866; a member of the Medical Society of the State of Pennsylvania; died at his home in Bally, December 30, from tuberculosis, aged 70.

Braxton Wise, M.D. Tulane University, New Orleans, 1883; a member of the Louisiana State Medical Society; died at his home in Benton, December 27, from cerebral hemorrhage, aged 55.

Franklin J. Geiger, M.D. Medical College of the State of South Carolina, Charleston, 1858; a Confederate veteran; died at his home near Saint Matthews, S. C., November 30, aged 75.

Amos S. Smith (license, Pa. 1881); for almost half a century a practitioner of Pennsylvania; died at his home in Bismarck, December 27, from heart disease, aged 78.

Ashbury Westfall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1869; a resident of California for fifty years; died at his home in Monterey, November 30.

Oscar Augustus Perine, M.D. Eclectic Medical College of the City of New York, 1888; died at his home in Brooklyn, December 23, from uremia, aged 45.

George L. Ezzard, M.D. Southern Medical College, Atlanta, Ga., 1892; of Atlanta; died at a private sanitarium in that city, December 19, aged 44.

Lloyd E. Goodpasture, M.D. Washington University, St. Louis, 1908; died at his home in Thayer, Ill., December 25, from typhoid fever, aged 28.

Horace Parrish Taylor, M.D. Bellevue Hospital Medical College, 1889; died at his home in Norfolk, Va., December 1, from heart disease, aged 44.

Adolph Buettner, M.D. College of Physicians and Surgeons, Chicago, 1886; died at his home in Chicago, December 18, from paresis, aged 55.

Henry R. Richard, M.D. University of Minnesota, Minneapolis, 1900; of Waterville, Wash.; died in Wenatchee, Wash., December 22, aged 36.

William Warder McCarty, M.D. Miami Medical College, Cincinnati, 1878; of Canaan, Ind.; died in Madison, Ind., December 15, aged 82.

John R. Holifield, M.D. University of Louisville, Ky., 1870; died at his home in Mayfield, Ky., December 12, from pneumonia, aged 75.

George Cheeseman, M.D. Jefferson Medical College, 1866; died at his home in Library, Pa., December 24, aged 82.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

J. LAWRENCE HILL, A.M., D.D., M.D.,

Another Consumption Cure Fake in Jackson, Michigan *

A few weeks ago we devoted some space to a vicious consumption cure fraud, Lung Germine, hailing from Jackson, Mich. A similar concern in the same town is conducted by one J. Lawrence Hill, who sometimes writes after his name the letters "A.M., D.D., M.D." As in most mail-order medical concerns, the "doctor" in whose name the concern is operated is really a very unimportant part of the company. "J. Lawrence Hill, A.M., M.D.," is the corporate name of the company that has recently been re-incorporated with an authorized capital of $5,000, the stock being held in $10.00 shares. There are apparently three stockholders: (1) F. L. Childs, Cleveland, O.; (2) F. C. Badgley, Jackson, Mich., and (3) J. Lawrence Hill, A.M., D.D., M.D. Of the 500 shares representing the entire stock, Hill is said to hold but 50 and the balance of 450 is said to be divided equally between Childs and Badgley. Evidently Childs and Badgley furnish the money, while Hill furnishes the "degrees"—and incidentally keeps the business from being illegal as well as immoral.

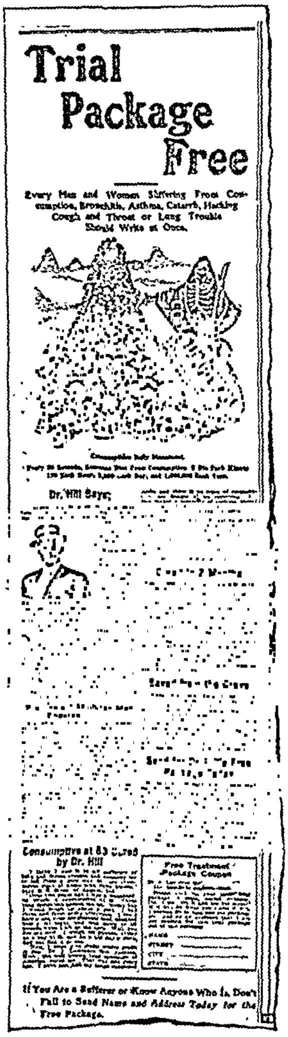
Trial
Package
Free
Every Man and Woman Suffering From Consumption, Bronchitis, Asthma, Catarrh, Hacking Cough and Throat or Lung Trouble Should Write at Once.
Dr. Hill Says:
Consumptive at 83 Cured by Dr. Hill
Free Treatment Package Coupon
If You Are a Sufferer or Know Anyone Who Is, Don't Fail to Send Name and Address Today for the Free Package.

Fig. 1.—A typical advertisement of the Hill consumption cure, from the St. Joseph (Mo.) *News-Press*.

A COMMUNITY OF INTEREST

When the company was first incorporated in 1906, there were two other stockholders in addition to Badgley and Childs, viz., R. A. Oliver and H. H. Mallory. Whether the members of this quartet have any qualifications for "curing" consumption, may be decided by the reader, from the following information:

Childs, F. L.: Vice-president of the Hill Consumption cure concern; is said to have been on the road previously for the Upjohn Company; to be at present sales-agent for a Cleveland iron company and to be proprietor of a mail-order "constipation cure"—"Pomola"—in Kalamazoo, Mich.

Badgley, F. C.: Secretary and treasurer of the Hill consumption cure concern; is said to be: a member of the law firm of Badgley & Badgley, Jackson, Mich.; president of the concern operating the "Magic Foot Draft" fake (also of Jackson) and president of a "pile cure" mail-order company, the "Dr. Van Vleck Company" (also of Jackson).

Oliver, R. A.: Ex-secretary and treasurer of the Hill consumption cure concern; is said to own one-fourth interest in the "Magic Foot Draft" concern, his name appearing in the advertising done by the British branch of that concern. Incidentally, we understand that the London branches of the Van Vleck pile cure and the Magic Foot Draft concerns occupy the same offices.

Mallory, H. H.: Ex-vice-president of the Hill concern; advertising agent; is said to be vice-president of the "Magic Foot Draft" company, also vice-president of the Van Vleck pile cure concern.

A study of the foregoing will help make clear a fact that has been previously referred to in these columns, viz., that Jackson, Mich., for a city of its size, is particularly well represented in the line of medical fakes, doing, not merely a national, but an international business. It shows, too, the community of interest between the various mail-order medical concerns in Jackson.

HILL'S METHODS

The methods by which J. Lawrence Hill, A.M., D.D., M.D., conducts the business which bears his name differ in no essential respect from those pursued by other mail-order "consumption cure" fakers. First, of course, there are the advertisements (Fig. 1) which appear in such periodicals and newspapers as are not above sharing the blood-money of the consumption-cure ghouls—a type of journalism, we are glad to say, that is yearly becoming scarcer. Second is the series of follow-up letters, so prepared as to simulate personal communications, but which are really printed, even to the signature of the "physician" in charge. The only part of each letter of this series which has any remotely personal element in it is the name and address of the victim to whom it is addressed, these being "filled in" by means of a typewriter in the same style of type and color of ink as that used in printing the letters. Third, is the bait of a "trial treatment," of which more later. Fourth, the inevitable testimonials—the *sine qua non* of the quack.

THE TRIAL PACKAGE

In his advertisements, Dr. Hill says he "cures consumption" and will send a trial package to all who will send 20 cents "to help pay for packing," etc. Those who answer his advertisement are sent a four-page circular letter, the first of his follow-up letters, designated, for the convenience of Hill's mailing force, "E 1," together with the "trial package." The package consists of a collapsible tube and three small cardboard boxes, all contained in a larger cardboard box. The three small boxes are labeled, respectively: "Globules," "Systemic Wafers" and "Laxative Tablets," while the tube is labeled "Plasma." Cursory examination shows:

Plasma: A white ointment smelling strongly of wintergreen. The consumptive is directed to "rub in the upper part of chest and between shoulders." He is told that "the ingredients of plasma are quickly absorbed by the blood, thus the plasma helps to destroy the *bacilli* or germs in the blood . . ."

Globules: Nine flexible capsules each containing an oily liquid, having the odor of guaiacol. Floating in the liquid is a small pill. One globule to be taken three times a day. They are claimed to "help supply the blood with what it needs to make strong fighting corpuscles . . ."

Systemic Wafers: Small pinkish-white tablet triturates, having a sweet taste. To be taken at 10 a. m., 3 p. m. and 7 p. m., and are said to "act specifically on the . . . lungs, imparting strength to them . . ."

Laxative Tablets: Small chocolate-coated tablets. Says Hill: "They are wonderfully [*sic*] bowel regulators, act nicely on the liver and are a triumph in the art of chemistry, being prepared by one of the best known chemists and pharmacists."

THE FOLLOW-UP SYSTEM

The first letter of Hill's "follow-up" series states, among other things:

> "My purpose in sending you my trial treatment is to prove to you . . . that it is not necessary for you . . . to spend a good deal of money in following a complicated mode of living . . ."

This statement and the fact that Hill claims in his preliminary advertising that the use of his "*treatment*" renders it unnecessary "to materially change the patient's mode of living," and the further fact that in none of his series of follow-up letters does he recommend the open-air method of treatment, make plain the viciousness of this particular "consumption cure." As every reputable physician knows, the hardest task that confronts him, in his attempt to help the consumptive, is to get the patient to consent to put up with the inconveniences and minor hardships inseparable from the only rational treatment of the disease—the out-door life. The average consumptive believes that the physician should be able to give him "medicine" that will "cure" him—a belief that is as fallacious as it is dangerous and yet one that Hill and most consumption cure fakers play on.

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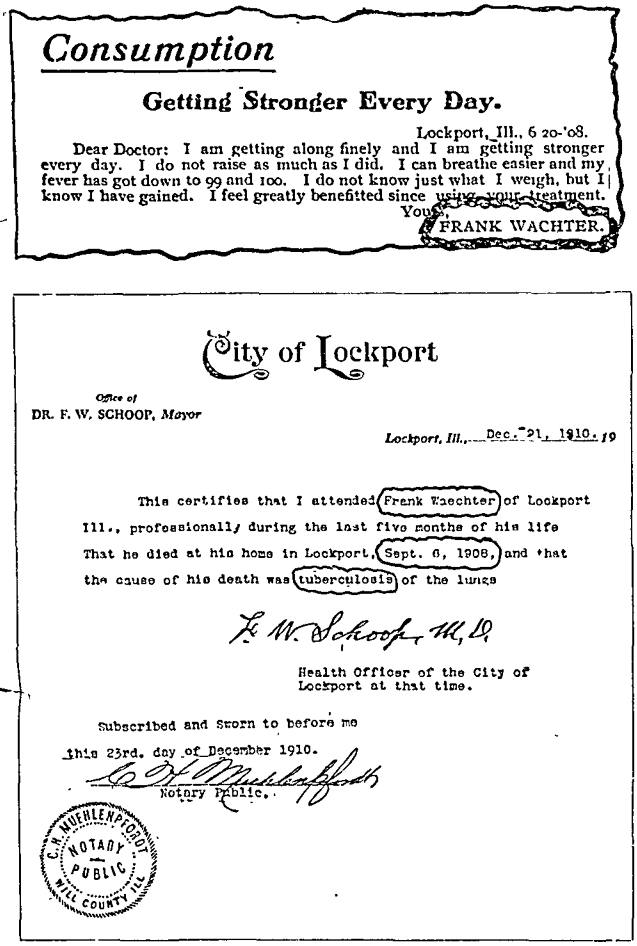
* A reprint of this matter may be had in pamphlet form; price, 4 cents. The pamphlet contains additional data of interest as well as several additional illustrations.

After he has persuaded the victim to part with his $10 for the "first month's treatment," however, Hill sends a pamphlet entitled "Rules for Living," in which the "mode of living" recommended is certainly as "complicated" as any ever suggested by a reputable physician. It is evident, then, that the claims made—both directly and by inference—in the follow-up letters and advertising by which the prospective patient is led to believe that Hill's "treatment" is all that is necessary to cure consumption, is merely a catch-penny device to ensnare the victim. It is equally evident that if good results ever follow Hill's "treatment," they are due, not to the drugs he sends, but to the mode of living adopted by the patient.



Consumption

Getting Stronger Every Day.

Lockport, Ill., 6 20-'08.

Dear Doctor: I am getting along finely and I am getting stronger every day. I do not raise as much as I did. I can breathe easier and my fever has got down to 99 and 100. I do not know just what I weigh, but I know I have gained. I feel greatly benefitted since using your treatment.

Yours,
FRANK WACHTER.

City of Lockport

Office of
DR. F. W. SCHOOP, Mayor

Lockport, Ill., Dec. 21, 1910. 19

This certifies that I attended Frank Waechter of Lockport Ill., professionally during the last five months of his life That he died at his home in Lockport, Sept. 6, 1908, and that the cause of his death was tuberculosis of the lungs

F. W. Schoop, M.D.
Health Officer of the City of Lockport at that time.

Subscribed and Sworn to before me this 23rd. day of December 1910.
C. H. Muehlenpfordt
Notary Public.

Fig. 2.—The upper illustration is a reduced photographic reproduction of a Hill testimonial. The writer of it died three months after giving it. Hill continued to use the testimonial, however, for two years longer. The lower illustration is a photographic reproduction of a certified statement regarding the death of the writer of the testimonial.

SLIDING SCALE OF FEES

With the first letter and the "Trial Treatment" comes a symptom blank—the "Three Day Test Sheet"—which the patient is expected to fill out and return with the order for the first month's treatment. Much, also, is made of the wonderful virtues of Hill's "truly wonderful appliance for lung development and air sterilization" called the "Ozonol Lung Developer," which is sent "free" to those who order the first month's treatment. The price first asked for one month's treatment is $10. Should the patient not "bite," the second follow-up letter—number "E 1 a"—comes just one month later. This "letter" dilates again on the "Ozonol Developer," for which Hill claims:

> "The air in passing through this Developer is . . . more heavily charged with oxygen than if breathed otherwise . . ."

The second letter still gives the price of the treatment as $10. Continued silence on the part of the patient brings—thirty days later—follow-up letter number "E 1 b." In this, the third letter of the series, the poor victim is told of those who have "been laid away among the Innumerable Dead" because they did not send for the Hill treatment soon enough.

> "You know what is awaiting you, if you delay ordering my treatment."

The third letter brings the price asked down to $5—the balance to be paid "after you are cured, or whenever you are able, just as you see fit." One month later, if the patient still wisely continues to hold on to his money, comes the fourth follow-up letter, number "E 2 a." This letter is chiefly devoted to Hill's laudation of himself and his work. For instance:

> "I am a physician of many years' practice."
>
> "I am widely known for the good I have done in treating patients afflicted with consumption . . ."
>
> "The remarkable success I have had in curing these troubles certainly warrants any man or woman, no matter how seriously affected . . . to feel absolutely certain that if there is any one man living who can save them, I believe I can do it."
>
> "I do not say this to boast, but because it is true."

The price, in the fourth letter, still remains at $5. Should this fail to bring an order within a month, the fifth and last of this series of follow-up letters comes, number "E 3 a." This represents Hill's final attempt to "land" his victim, and the identical "treatment" for which $10 was asked in the first two letters is now offered for $3.20: "You shall never be asked for the balance."

THE "TREATMENT"

If the price of a "treatment" is sent—either $10, $5 or $3.20, according to the ease with which the victim bites—back comes another form letter, "Tr. 1," commencing: "Your remittance for treatment just to hand, for which please accept thanks." The amount of the remittance is not mentioned, so presumably this "letter" may be used in acknowledging the receipt of any of the "fees" which Hill's sliding scale calls for.

The "treatment" itself seems to differ in no respect from the "trial treatment" sent previously, except in size. The "Globules," the "Systemic Wafers," the "Laxative Wafers" and the "Plasma"—all are there, in larger quantities, but with similar directions for their use. In addition to these there is the "New Ozonol Lung Developer," about which so much is said in Hill's follow-up letters and other advertising matter. The "lung developer" consists of a cigar-shaped piece of hard rubber about 3½ inches long. One end of the "developer" is hollow and the cavity is loosely packed with cotton saturated with the "ozonol" fluid, a small vial of which accompanies it. The consumptive is instructed to place the charged end of the instrument in one nostril, close the other and inhale deeply; when the lungs have been filled the patient is to place the opposite end of the "developer" in the mouth and "blow the air out from the lungs."

The Association's chemists examined the various preparations sent by Hill in one of his $10 "treatments," and their report follows:

LABORATORY REPORT

A box labeled "Dr. J. Lawrence Hill's Rational $10 Three-Fold Treatment for Consumption, Asthma, Bronchitis, Catarrh and all Diseases of the Throat, Nose and Lungs," and containing several forms of medication was submitted to the

Association laboratory for examination. The "treatment" consisted of (1) a box of sealed elastic gelatin capsules, containing a liquid in which floated a pill, and labeled "Dr. J. Lawrence Hill's Globules"; (2) a small box of pinkish tablets labeled "Dr. Hill's Systemic Wafers"; (3) a small box of chocolate-coated tablets—"Dr. Hill's Laxative Tablets"; (4) a collapsible tube of a white ointment or salve labeled "Dr. J. Lawrence Hill's Plasma"; (5) a small vial (less than 2 drams) containing a brown liquid and bearing on the label—"Dr. J. Lawrence Hill's Antiseptic and Germ Killing Ozonol"; (6) a black hard-rubber inhaler, and (7) a small box containing a tuft of cotton.

The "Globules": These were opened and the liquid and pill examined individually. The pill after being freed from the liquid was treated with hydrochloric acid, resulting in an evolution of hydrogen with a characteristic odor, such as is given off on treating iron with hydrochloric acid. On triturating one of the pills and washing away the lighter insoluble matter, a residue of shining metallic scales remained, which, when dissolved in hydrochloric acid, emitted hydrogen gas as when the entire pill was treated. The resulting solution responded to tests for iron. On extracting the pills, from an alkaline medium, with ether, a bitter white crystalline substance was obtained, which responded to general alkaloidal tests, viz., it yielded a brown precipitate with iodin solution and a white precipitate with mercuric potassium iodid solution. Further examination showed that the substance gave strong reactions for quinin and less distinct ones for strychnin. No arsenic or other metals were found. From the results of the tests made it was assumed that the pills were composed essentially of iron (metallic), quinin and strychnin. The liquid in the globules was oily and possessed an odor of guaiacol. It was partially soluble in alcohol and completely soluble in ether and in chloroform. Alcohol extraction of the oil left a light yellow oil, practically odorless and tasteless; the portion extracted with alcohol responded to tests for guaiacol. The liquid portion of the "globules" then appeared to be a solution of guaiacol, or guaiacol-like body, in some bland oil.

The "Systemic Wafers": These were practically completely soluble in water, yielding a slightly turbid solution. They were sweetish in taste and slowly soluble in the mouth, resembling milk sugar. Tests for milk sugar indicated its presence. Further examination indicated the absence of metallic constituents, such as arsenic, antimony, mercury, iron, manganese, zinc, magnesium or calcium. Tests for alkaloids indicated the absence of alkaloids, such as atropin, strychnin, etc., while tests for such substances as iodids, bromids and salicylates indicated their absence. From the examination it was concluded that the tablets were essentially milk sugar.

The "Laxative Tablets": These were found to contain a substance having a faint, peculiar odor and a very bitter taste. Tests for arsenic and other heavy metals indicated their absence, and the tablets did not respond to tests for alkaloids. The bitter taste and the use for which the tablets were intended, pointed to the possible presence of aloin or aloes, and appropriate tests proved that aloin or aloes and a small quantity of starch were present. From the tests made, it was assumed that the tablets were principally aloes or aloin with some starch.

The "Plasma": This substance was found to be a white ointment or salve with a strong odor of oil of wintergreen. When subjected to steam distillation the distillate was found to contain material having the odor of wintergreen, while the residue in the distillation flask possessed an odor resembling oil of cloves. The "plasma" when extracted with ether yielded a substance which had the properties of stearic acid and the portion soluble in water had the properties of a stearic acid soap. The substance also contained a small quantity of a gummy substance resembling tragacanth. Tests indicated the absence of metals and alkaloids. It was concluded that the "plasma" was essentially a stearic acid ointment containing as its chief ingredient oil of wintergreen and small quantities of other oils.

"Ozonol": This liquid possessed an aromatic odor and was soluble in alcohol, ether and in chloroform, but insoluble in water. When extracted successively with various solvents fractions were obtained which resembled such essential oils as sassafras, peppermint and eucalyptus. No alkaloids or other potent drugs were found. From the above properties "Ozonol" was assumed to be a mixture of aromatic oils resembling sassafras, peppermint and eucalyptus.

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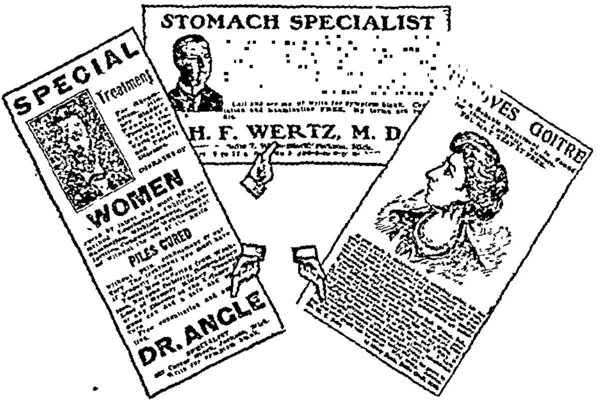

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Just a word in closing about J. Lawrence Hill, A.M., D.D., M.D. He is a graduate of the Chicago Homeopathic Medical College, 1894. In his advertisements he claims to be a graduate of Edinburgh University, Scotland. In 1896 Hill was practicing in Battle Creek, Calhoun County, Mich. In February, 1896, he filed his physician's certificate, as the law requires, with the county clerk of Calhoun County, and, according to the court records, he at that time *stated under oath* that he was "a graduate of Edinburgh Medical College, Scotland." Inquiry made of the authorities of the University of Edinburgh brought the following reply from the registrar of the university:

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Fourth: The drugs sent out by Hill as a "trial treatment" are worthless as a cure for consumption.

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New Names for Old Drugs

"Calmine, the new Hypnotic," is another example of the ingenuity of the exploiters of proprietary preparations in coining new names for old drugs and the recklessness with which exploiters herald forth renamed remedies to the profession and the public as new and wonderful discoveries.

This is what the promoters, sustained by a calm confidence in the credulity of the profession, have to say:

> In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable.

Association laboratory for examination. The "treatment" consisted of (1) a box of sealed elastic gelatin capsules, containing a liquid in which floated a pill, and labeled "Dr. J. Lawrence Hill's Globules"; (2) a small box of pinkish tablets labeled "Dr. Hill's Systemic Wafers"; (3) a small box of chocolate-coated tablets—"Dr. Hill's Laxative Tablets"; (4) a collapsible tube of a white ointment or salve labeled "Dr. J. Lawrence Hill's Plasma"; (5) a small vial (less than 2 drams) containing a brown liquid and bearing on the label—"Dr. J. Lawrence Hill's Antiseptic and Germ Killing Ozonol"; (6) a black hard-rubber inhaler, and (7) a small box containing a tuft of cotton.

The "Globules": These were opened and the liquid and pill examined individually. The pill after being freed from the liquid was treated with hydrochloric acid, resulting in an evolution of hydrogen with a characteristic odor, such as is given off on treating iron with hydrochloric acid. On triturating one of the pills and washing away the lighter insoluble matter, a residue of shining metallic scales remained, which, when dissolved in hydrochloric acid, emitted hydrogen gas as when the entire pill was treated. The resulting solution responded to tests for iron. On extracting the pills, from an alkaline medium, with ether, a bitter white crystalline substance was obtained, which responded to general alkaloidal tests, viz., it yielded a brown precipitate with iodin solution and a white precipitate with mercuric potassium iodid solution. Further examination showed that the substance gave strong reactions for quinin and less distinct ones for strychnin. No arsenic or other metals were found. From the results of the tests made it was assumed that the pills were composed essentially of iron (metallic), quinin and strychnin. The liquid in the globules was oily and possessed an odor of guaiacol. It was partially soluble in alcohol and completely soluble in ether and in chloroform. *Alcohol extraction of the oil* left a light yellow oil, practically odorless and tasteless; the portion extracted with alcohol responded to tests for guaiacol. The liquid portion of the "globules" then appeared to be a solution of guaiacol, or guaiacol-like body, in some bland oil.

The "Systemic Wafers": These were practically completely soluble in water, yielding a slightly turbid solution. They were sweetish in taste and slowly soluble in the mouth, resembling milk sugar. Tests for milk sugar indicated its presence. Further examination indicated the absence of metallic constituents, such as arsenic, antimony, mercury, iron, manganese, zinc, magnesium or calcium. Tests for alkaloids indicated the absence of alkaloids, such as atropin, strychnin, etc., while tests for such substances as iodids, bromids and salicylates indicated their absence. From the examination it was concluded that the tablets were essentially milk sugar.

The "Laxative Tablets": These were found to contain a substance having a faint, peculiar odor and a very bitter taste. Tests for arsenic and other heavy metals indicated their absence, and the tablets did not respond to tests for alkaloids. The bitter taste and the use for which the tablets were intended, pointed to the possible presence of aloin or aloes, and appropriate tests proved that aloin or aloes and a small quantity of starch were present. From the tests made, it was assumed that the tablets were principally aloes or aloin with some starch.

The "Plasma": This substance was found to be a white ointment or salve with a strong odor of oil of wintergreen. When subjected to steam distillation the distillate was found to contain material having the odor of wintergreen, while the residue in the distillation flask possessed an odor resembling oil of cloves. The "plasma" when extracted with ether yielded a substance which had the properties of stearic acid and the portion soluble in water had the properties of a stearic acid soap. The substance also contained a small quantity of a gummy substance resembling tragacanth. Tests indicated the absence of metals and alkaloids. It was concluded that the "plasma" was essentially a stearic acid ointment containing as its chief ingredient oil of wintergreen and small quantities of other oils.

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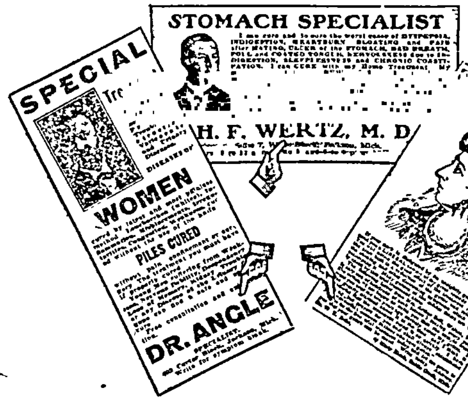
STOMACH SPECIALIST
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H. F. WERTZ, M. D.
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Write for symptom blank
MOVES GOITRE

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> In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable.

> Very few drug products have attracted so much attention as this one.
>
> A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come out at frequent intervals—but none of them have "filled the bill"; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.

Correspondence

The Medical Profession Must Change Its Tactics

To the Editor:—He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with "new thoughters," and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, maligned, lied about, misrepresented and "knocked" on every possible occasion.

Physicians are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, "drug dopers," etc. The medical profession is denounced as a trust and monopoly, and any attempt of physicians to organize or to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition or by fear of the superior skill of their irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how physicians are losing the confidence of the people, how the ground is slipping from under their feet.

As an illustration one need only mention the reception that has been accorded to the suggestion of a federal department of health. The motives that actuate physicians and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of 150,000.

Physicians themselves are to blame. When the irregular, fantastic and pernicious cults began to make their appearance, they paid no attention to them. They thought that these cults amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, physicians remained silent. They considered it *infra dignitatem* to pay attention to them, and thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

This long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it may take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that physicians actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, they can do much toward destroying the influence of the quacks and the irregular cults. In short, medical men must throw off their exclusiveness, and must go out to the public and take it into their confidence.

The truth is with physicians—that they know: only they must not hide their knowledge under a bushel, and expect that without any effort on their part its light will penetrate into the darkest recesses of ignorance and quackery.

W. J. ROBINSON, M.D., New York City.

Reporting the Case of Another

To the Editor:—I wish to call attention to the reporting of cases that do not belong to the one reporting them, and to protest against the practice. THE JOURNAL (Dec. 31, 1910, p. 2296), contains an article entitled "A Case of Diaphragmatic Hernia." The patient referred to entered my service at Cook County Hospital, Chicago, and was operated on by me for obstruction of the bowels. The case report has been published without my knowledge or consent.

LAWRENCE RYAN, Chicago.

[A proof of the above letter was sent to Dr. Bamberger, who replies:]

To the Editor:—In reply to Dr. Ryan's letter the full facts of the matter are all that I want to state. On July 24, 1910, the patient in question entered the surgical service of the Cook County Hospital, of which I was senior resident surgeon, and Dr. Ryan, staff surgeon. I made the diagnosis of intestinal obstruction, and urged immediate operation. With Dr. Ryan, I participated in the operation, and I had full charge of the entire tedious postoperative treatment. Six months elapsed and no report of the case had been made, and I did not think that any objection would be made to my reporting it, since I was so closely connected with it. If I have unintentionally slighted Dr. Ryan, I take this means of asking pardon, and I am most willing to have Dr. Ryan, if he so desires, be given his share of credit in the report of the case. You will favor me by publishing this letter in the JOURNAL.

ABBIE BAMBERGER, Chicago.

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A case in point: I have now a convalescent patient who was brought into the Allegheny Heights Hospital in an unconscious condition; leg was badly crushed, pulse small, rapid and thready. I amputated the leg without an anesthetic, which procedure did not add at all to the shock, because loss of blood was a greater factor in this case than pure shock. This is a point in which I hope this communication may arouse some interest.

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I am very glad that Drs. Carrel and Burrows have independently obtained the same results that I obtained and have been able to extend their experiments so as to get cultures in series. I am going on with my researches, from which I hope I shall obtain new results that may extend those I have already obtained and confirm the American observations on the possibility of the transplantation in series.

DR. GUIDO VOLPINO, Professor of Bacteriology.
Turin University, Turin, Italy.

Work in Treatment of Neurasthenia.—In treatment of chronic neurasthenics who are strong enough to undertake some employment, work of some sort should be employed regularly and systematically. It is desirable to get out of the channel in which the patient has lived and to start him in some new occupation. Individuals differ greatly in the amount of work they are able to perform, and it is quite as important to grade the amount of manual labor as the dosage of any remedy that is administered. Whether we employ indoor or outdoor work, and whether it be for diversion or as a training toward a means to gain a livelihood, the main object is "to train the patient's mind to run naturally in a different channel. It is not so much the work as the way one inspires the person to take it up. That form of work, however, is best which interests the patient and leads him on to more and more thought of things outside himself."—W. N. Thompson, in *Yale Medical Journal.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MEDICAL JOURNALS OF LATIN AMERICA

To the Editor:—Kindly submit to me the names of South American medical journals, preferably of Brazil or Argentina.

G. H. REINHARDT, St. Louis.

ANSWER.—The following are some representative South American, Mexican and Cuban journals:

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PERIODICALS ON OBSTETRICS

To the Editor:—Please give me the names of some good American and British journals on obstetrics and inform me where subscription should be sent, etc.

WALTER HIGGS, M.D., Eveleth, Minn.

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PROPORTION OF SODIUM GLYCOCHOLATE AND TAUROCHOLATE IN BILE

To the Editor:—In what proportion do the bile salts sodium glycocholate and taurocholate exist in bile?

F. S. SCHMIDT, Roxbury, Mass.

ANSWER.—The proportion of taurocholate to glycocholate is variable. According to the analyses of Hammersten, it varied between 1 of taurocholate to 2.07 of glycocholate and 1 of taurocholate to 14.36 of glycocholate. The total amount of bile salts varied in three analyses between 9.04 and 18.240 per thousand. In the bile of animals the proportion is also generally variable. In the carnivora usually sodium taurocholate is the predominant bile salt. In many of the herbivora the glycocholate predominates, and in swine it is found almost to the exclusion of the taurocholate.

POTASSIUM CYANATE AND THE BLOOD

A correspondent wishes the reference to an article, which he thinks was published in THE JOURNAL some time ago, reporting experiments on dogs to ascertain the action of potassium cyanate on the blood. We fail to find such an article in the index. The drug was perhaps mentioned incidentally in the text, but was not considered of sufficient importance to be named in the title. Perhaps some of our readers can render assistance.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 7, 1911.

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Banister, John M., col., is retired from active duty.

Barney, Chas. N., major, is retired from active service.

Davidson, Wilson T., captain, granted leave of absence for three months.

Very few drug products have attracted so much attention as this one.

A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come out at frequent intervals—but none of them have "filled the bill"; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.

Correspondence

The Medical Profession Must Change Its Tactics

To the Editor:—He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with "new thoughters," and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, maligned, lied about, misrepresented and "knocked" on every possible occasion.

Physicians are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, "drug dopers," etc. The medical profession is denounced as a trust and monopoly, and any attempt of physicians to organize or to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition or by fear of the superior skill of their irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how physicians are losing the confidence of the people, how the ground is slipping from under their feet.

As an illustration one need only mention the reception that has been accorded to the suggestion of a federal department of health. The motives that actuate physicians and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of 150,000.

Physicians themselves are to blame. When the irregular, fantastic and pernicious cults began to make their appearance, they paid no attention to them. They thought that these cults amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, physicians remained silent. They considered it *infra dignitatem* to pay attention to them, and thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

This long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it may take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that physicians actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, they can do much toward destroying the influence of the quacks and the irregular cults. In short, medical men must throw off their exclusiveness, and must go out to the public and take it into their confidence.

The truth is with physicians—that they know; only they must not hide their knowledge under a bushel, and expect that without any effort on their part its light will penetrate into the darkest recesses of ignorance and quackery.

W. J. ROBINSON, M.D., New York City.

Reporting the Case of Another

To the Editor:—I wish to call attention to the reporting of cases that do not belong to the one reporting them, and to protest against the practice. THE JOURNAL (Dec. 31, 1910, p. 2296), contains an article entitled "A Case of Diaphragmatic Hernia." The patient referred to entered my service at Cook County Hospital, Chicago, and was operated on by me for obstruction of the bowels. The case report has been published without my knowledge or consent.

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Medical Department, U. S. Army

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Barney, Chas. N., major, is retired from active service.

Davidson, Wilson T., captain, granted leave of absence for three months.

Krebs, Lloyd Le R., captain, ordered to report to Lt. Col. James D. Glennan, Med. Corps, Pres. Examining Board, San Francisco, for further examination to determine his fitness for promotion.

Nolven, F. Homer, D. S., left temporary duty at Ft. Ward, Washington, en route to Ft. George Wright, Wash., for temporary duty.

Allen, John H., major, leave of absence for 10 days, extended 10 days.

Harris, Herbert I., M.R.C., order relieving him from duty at Ft. Snelling, Minn., and directing him to proceed to the Philippines Division, for duty, is revoked.

Scott, H. O., D.S., Jan. 4, relieved from duty at Ft. Hamilton, N. Y., and ordered to San Francisco. Dent. Surg. Scott on expiration of leave of absence to report to S. G. for annulment of contract. Granted one month and 10 days leave of absence.

Mason, George L., D.S., reports for temporary duty at Ft. Missoula, Montana.

Wing, F. F., D.S., left Ft. D. A. Russell, Wyo., en route to Ft. Crook, Nebraska, for temporary duty.

Ebert, Rudolph G., lt.-col., relieved from duty as chief surgeon, Dept. of the Columbia, and ordered to San Francisco, for duty as chief surgeon, Dept. of California, relieving Lt.-Col. Chas. M. Gandy, Med. Corps, and in addition to that duty Lt.-Col. Ebert will assume the duties of medical superintendent, Army Transport Service, San Francisco. Lt.-Col. Gandy after being relieved will proceed on transport to sail from San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in Philippines Division.

McAlister, John A., Jr., D.S., on arrival at San Francisco, will proceed to Ft. Leavenworth, Kansas, for duty at that post.

Leslie, Samuel H., D.S., relieved from duty at Ft. Leavenworth, Kansas, and ordered to sail on transport leaving San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in the Philippines Division.

Smith, Herbert M., captain, honorably discharged from the service of the United States.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 7, 1911.

Smith, H. L., passed asst-surgeon, ordered to the *Hancock*.

Higgins, M. E., passed asst-surgeon, detached from the naval proving ground, Indian Head, Md., and ordered to temporary duty at the Naval Medical School, Washington, D. C.

Phelps, J. R., asst-surgeon, detached from the *Solace* and ordered to the *Vermont*.

Brown, E. W., asst-surgeon, detached from the *Vermont* and ordered to the naval proving ground, Indian Head, Md.

Foster, T. G., passed asst-surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the *New Orleans*.

Hathaway, G. S., passed asst-surgeon, detached from the *New Orleans* and ordered to the naval station, Olongapo, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Jan. 4, 1911.

Anderson, J. F., P. A. surgeon, directed to proceeed to Philadelphia on special temporary duty.

Irwin, M. H., A. A. surgeon, granted seven days' leave of absence from Dec. 24, 1910, under paragraph 210, Service Regulations.

McMullen, John, P. A. Surgeon, granted fourteen days' leave of absence from Dec. 30, 1910.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., as soon as practicable, to make medical survey of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Society Proceedings

COMING MEETINGS

Am. Med. Assn. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.

Assn. of American Medical Colleges, Chicago, February 27-28.

Natl. Confed. of State Med. Exam. and Licng. Bds, Chicago, Feb. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-14, 1910

(Concluded from page 68)

Stone in the Ureter

Dr. R. C. Bryan, Richmond, Va.: The size, number, and location of the stone having been accurately determined, the treatment resolves itself into one of two methods: (1) ureteral catheterization and lavage; (2) operation. It would seem advisable in small stones, and those located in the lower segment of the ureter, to attempt by ureteral catheterization and injection to dislodge them. This will likely occur in a fair percentage of instances. It occurred in four of my eight cases. If this method fails, operation is indicated. I have done only the extraperitoneal operation. It does not appear that the intraperitoneal or combined method offers any advantage which would justify the possibility of peritoneal infection by urine leaking from a suppurating tract. An incision starting midway between the highest point of the crest of the ilium and the eleventh rib, and running to the anterior superior spine of the ilium, thence parallel with and internal to Poupart's ligament for its outer three-fourths, has in my series given sufficient opening to explore the ureter from the kidney above to the bladder below. In those instances in which the stone is incarcerated in the intravesical segment, the incision may be carried down to the spine of the pubes, thus giving all the room desired. The ureter is cut through its long axis and the stone removed. Catgut sutures approximate the wound, and a tube is inserted to the site. In my series there was leakage in but one case for five days, the remainder giving none at the end of two days.

The Early Diagnosis and Treatment of Renal Tuberculosis

Dr. J. M. Mason, Birmingham, Ala.: Renal tuberculosis is, in the beginning, a unilateral infection and may remain so for a long time. For successful treatment the patient should reach the surgeon while the disease is still confined to one kidney. The early symptoms are rarely referred to the kidney, but in a large percentage of cases are vesical and may remain so for many months. Repeated examinations should be made for the detection of tubercle bacilli in the urine, and often the inoculation of guinea-pigs should be resorted to. The cystoscope and ureteral catheters must be made use of to ascertain the condition of the bladder and to determine which kidney is the seat of disease, also for the purpose of ascertaining the organic and functional condition of the second kidney. The treatment consists of prompt nephrectomy followed by the best hygienic, climatic and dietetic management.

Time and Technic for Cesarean Section

Dr. Lewis S. McMurtry, Louisville, Ky., read a paper on this subject which will appear in The Journal.

Intussusception in the Adult

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Krebs, Lloyd Le R., captain, ordered to report to Lt. Col. James D. Glennan, Med. Corps, Pres. Examining Board, San Francisco, for further examination to determine his fitness for promotion.

Nolven, F. Homer, D. S., left temporary duty at Ft. Ward, Washington, en route to Ft. George Wright, Wash., for temporary duty.

Allen, John H., major, leave of absence for 10 days, extended 10 days.

Harris, Herbert I., M.R.C., order relieving him from duty at Ft. Snelling, Minn., and directing him to proceed to the Philippines Division, for duty, is revoked.

Scott, H. O., D.S., Jan. 4, relieved from duty at Ft. Hamilton, N. Y., and ordered to San Francisco. Dent. Surg. Scott on expiration of leave of absence to report to S. G. for annulment of contract. Granted one month and 10 days leave of absence.

Mason, George L., D.S., reports for temporary duty at Ft. Missoula, Montana.

Wing, F. F., D.S., left Ft. D. A. Russell, Wyo., en route to Ft. Crook, Nebraska, for temporary duty.

Ebert, Rudolph G., lt.-col., relieved from duty as chief surgeon, Dept. of the Columbia, and ordered to San Francisco, for duty as chief surgeon, Dept. of California, relieving Lt.-Col. Chas. M. Gandy, Med. Corps, and in addition to that duty Lt.-Col. Ebert will assume the duties of medical superintendent, Army Transport Service, San Francisco. Lt.-Col. Gandy after being relieved will proceed on transport to sail from San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in Philippines Division.

McAllister, John A., Jr., D S., on arrival at San Francisco, will proceed to Ft. Leavenworth, Kansas, for duty at that post.

Leslie, Samuel H., D.S., relieved from duty at Ft. Leavenworth, Kansas, and ordered to sail on transport leaving San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in the Philippines Division.

Smith, Herbert M., captain, honorably discharged from the service of the United States.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 7, 1911.

Smith, H. L., passed asst-surgeon, ordered to the *Hancock*.

Higgins, M. E., passed asst-surgeon, detached from the naval proving ground, Indian Head, Md., and ordered to temporary duty at the Naval Medical School, Washington, D. C.

Phelps, J. R., asst-surgeon, detached from the *Solace* and ordered to the *Vermont*.

Brown, E. W., asst-surgeon, detached from the *Vermont* and ordered to the naval proving ground, Indian Head, Md.

Foster, T. G., passed asst-surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the *New Orleans*.

Huthaway, G. S., passed asst-surgeon, detached from the *New Orleans* and ordered to the naval station, Olongapo, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Jan. 4, 1911.

Anderson, J. F., P. A. surgeon, directed to proceeed to Philadelphia on special temporary duty.

Irwin, M. H., A. A. surgeon, granted seven days' leave of absence from Dec. 24, 1910, under paragraph 210, Service Regulations.

McMullen, John, P. A. Surgeon, granted fourteen days' leave of absence from Dec 30, 1910.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N Y., as soon as practicable, to make medical survey of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Society Proceedings

COMING MEETINGS

Am. Med. Assn. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Assn. of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds , Chicago, Feb. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-14, 1910

(*Concluded from page 68*)

Stone in the Ureter

Dr. R. C. Bryan, Richmond, Va.: The size, number, and location of the stone having been accurately determined, the treatment resolves itself into one of two methods: (1) ureteral catheterization and lavage; (2) operation. It would seem advisable in small stones, and those located in the lower segment of the ureter, to attempt by ureteral catheterization and injection to dislodge them. This will likely occur in a fair percentage of instances. It occurred in four of my eight cases. If this method fails, operation is indicated. I have done only the extraperitoneal operation. It does not appear that the intraperitoneal or combined method offers any advantage which would justify the possibility of peritoneal infection by urine leaking from a suppurating tract. An incision starting midway between the highest point of the crest of the ilium and the eleventh rib, and running to the anterior superior spine of the ilium, thence parallel with and internal to Poupart's ligament for its outer three-fourths, has in my series given sufficient opening to explore the ureter from the kidney above to the bladder below. In those instances in which the stone is incarcerated in the intravesical segment, the incision may be carried down to the spine of the pubes, thus giving all the room desired. The ureter is cut through its long axis and the stone removed. Catgut sutures approximate the wound, and a tube is inserted to the site. In my series there was leakage in but one case for five days, the remainder giving none at the end of two days.

The Early Diagnosis and Treatment of Renal Tuberculosis

Dr. J. M. Mason, Birmingham, Ala.: Renal tuberculosis is, in the beginning, a unilateral infection and may remain so for a long time. For successful treatment the patient should reach the surgeon while the disease is still confined to one kidney. The early symptoms are rarely referred to the kidney, but in a large percentage of cases are vesical and may remain so for many months. Repeated examinations should be made for the detection of tubercle bacilli in the urine, and often the inoculation of guinea-pigs should be resorted to. The cystoscope and ureteral catheters must be made use of to ascertain the condition of the bladder and to determine which kidney is the seat of disease, also for the purpose of ascertaining the organic and functional condition of the second kidney. The treatment consists of prompt nephrectomy followed by the best hygienic, climatic and dietetic management.

Time and Technic for Cesarean Section

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... Incidentally I would like to criticize ... the term "Vaccine." I think it is proper ... as possible scientific terms. The ... referred to is merely a suspension of dead ... salt solution, to which has been added ... for preservative purposes; hence ... which scientifically and properly ... the preparation. "Vaccine," the term ... by Wright, has by common usage ... popularized, but strictly is a misnomer ... restricted to the virus used in ... from the cow in accordance with the ... of Jenner. Otitis media can be divided ... and chronic suppurative varieties ... The treatment has a definite necessity ... with other forms of treatment. ... be omitted. I feel that bacterin ... has a more restricted field as a therapeutic ... in the vast majority of affections in ... This is largely due to the fact ... in a bony cage.

... Local treatment in conjunction with ... is advisable if it can be carried out by ... The average nurse is not able to syringe ... We are always careful to see that ... We are always careful to see that ... I feel that anything more is unnecessary. ... several times a day and care observed that ... of the pus leading to retention.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, MEDICAL DEFENSE, LEGISLATION, ETC.

COMMENTS ON A NATIONAL DEPARTMENT OF HEALTH

... a national department of health con... among newspaper editors, in spite of the ... unlimited expenditures of those having ... to prevent it. Evidence is not ... expenditure of money and the unlimited ... matter used in attempting to arouse ... agency for promoting better health ... a reaction, and that the press, ... what the motives are of those ... large amounts of time and money ... American newspaper men are ... all the devices of the publicity ... only those buy newspaper space ... to get a return for their money. ... the funds for the support of such ... from those who fear they would ... a department of health, backed ... should do for the whole people ... farmer.

strongly than all others. Since one school represents over 90 per cent of all physicians, there would not be anything unreasonable to have them more numerously represented in the contemplated department of health.

"In other quarters the opposition is based on the ground that a national department of health would in some mysterious manner interfere with the rights of the states in home affairs. This ground is poor at best, and insincere in most cases; . . . The opposition of many well-intentioned men to the establishment of the Department of Agriculture a quarter of a century ago was based on the alleged violation of states' rights; however, states' rights or no rights, the Department of Agriculture is doing a very useful work, and its agency for good is no longer a matter of dispute. The most fanatical states' rights men do not hesitate to work tooth and nail for the improvement of rivers in their districts, and for the increase of the powers of the Interstate Commerce Commission, the states regulation not being sufficient.

"The real opposition is chiefly due to the wilful ignoring of the fact that human health and life should be the first care of the state and of the legislator. The most freely moving object between states is man, and yet less is done to control human disease and to gather statistics concerning his birth, life and death than is done for cattle. We resort to the federal government to eradicate the tick in cattle or cholera in hogs, yet, according to some Democrats, states' rights are in the way when it comes to the establishment of a Department of Health. No doubt, such a department will be established some day, . . . when the general interest in the welfare of our children will at least equal that in the thriving of our pigs. Some day when the real concerns of the people will receive as much attention as politics, we may have a department of health."

The argument of the *News* effectually disposes of the states'-rights objector. Coming from a southern newspaper of influence, this statement is significant, yet it is no more than is to be expected. The southern states have learned the value of federal aid in the suppression of epidemics and the preservation of life. The advocates of states' rights in public health matters will not come from the south.

Equally significant is a recent editorial comment of the Boston *Advertiser*, which considers the question from an economic and social standpoint; and particularly worthy of note is the emphasis laid on the necessity of public opinion in the protection of public health. The *Advertiser* says, in part:

> "The agitation for a national department of public health, at Washington, is based on some sound and able arguments, including that of economy in public service. There has been plenty of misdirected effort in the confusion which arises from the existence of so many branches of sanitary service, under the direction of different departments or bureaus of the government service. It would be possible to secure greater efficiency with striking economy, as compared with existing conditions, if the work were all placed under the control of a single department or bureau. . . .
>
> "But the fact remains that the real, vital force that must protect the public health, if it is ever to be protected, will be found in the force of public opinion. If the people will but insist on legislation which will safeguard their interests and their lives, it will be possible for the national and the state departments of health to do what should be done; but that time has not yet come. Perhaps it will never come within the lifetime of this generation. Something may be done, here or there, for the suppression of epidemics, for the elimination of the most evident and most striking dangers to public health; but until the people make it their business to vote at the polls for their own protection against the greed or the indifference which annually sacrifices the lives of tens of thousands, there will be no hope for any adequate protection of the people against the results of insanitary methods in workshops, farms, cities, and country, generally."

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Transfusion in Pellagra

DR. H. P. COLE, Mobile, Ala., presented a review of twenty cases of this disease. His article will appear in THE JOURNAL.

Other Papers Read

The following papers were also read: "Hydatid Cyst of the Liver, Successfully Treated by Operation," Dr. John C. Oliver, Cincinnati; "Diagnosis of Extrauterine Pregnancy," Dr. E. Gustav Zinke, Cincinnati; "Position for Saving Time in Combined Abdominal and Pelvic Outlet Operations," A. C. Scott, Temple, Tex.; "Omentopexy," Dr. Maurice H. Richardson, Boston; "Tumors of the Breast," Dr. Wm. C. McCarty, Rochester, Minn.; "Aneurysm," Dr. J. G. Sherrill, Louisville; "Hypernephroma Arising in the Right Testicle," Dr. James E. Thompson, Galveston, Tex.; "Degeneracy, the Underlying Cause of Disease; How the Unfit Perish," Dr. Chas. P. Noble, Philadelphia; "Cysts of the Pancreas," Dr. R. B. Hall, Cincinnati.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Nov. 23, 1910

The President, DR. HENRY LEFFMAN, in the Chair

The Pathologic Chemistry of Diabetes Mellitus

DR. A. G. ELLIS: The hyperglycemia and glycosuria of diabetes mellitus are due either to overproduction of glucose by the liver or to an underconsumption of that substance by the tissues, the former possibly the chief of the two. This perversion of metabolism appears due either to the failure of substance produced normally by the pancreas, muscles, and possibly other tissues, or to an affection of the central nervous system. The acidosis of diabetes is due to the abnormal metabolism of fats and possibly proteins as carried on in the absence of sufficient carbohydrates. Determination of acetonuria appears to be the most satisfactory clinical method of estimating the degree of acidosis.

The Functions of the Stomach in Diabetes Mellitus

This article by Dr. John J. Gilbride will appear in THE JOURNAL.

The Cold Cautery; Carbon-Dioxid Snow

DR. L. D. FRESCOLN: In making profound impressions of cold, we have a rapid method in the use of carbon-dioxid snow, what I call the "cold cautery." With varying degrees of exposure and under regulated amounts of pressure it causes hardening, bleaching, vesication (like extreme frost-bite) and finally crusting and at times a pliable scar. It is used successfully in treating moles, nevi, warts, senile keratosis, lupus erythematosus, lupus vulgaris, *trachoma and some forms* of epithelioma of the skin. It is to be applied from 10 to 40 seconds, often with considerable pressure. It is well for the operator to protect his own fingers during the application. We should not treat a large area at one sitting, particularly on the cellular tissue about the eye. The temperature of the solid stick is 79 C. and this may be reduced by dipping in ether. Cases of keratosis senilis, thought by the patients to be malignant and lasting many years, have disappeared completely in from one to three treatments, and this sometimes, when the Roentgen rays have made little improvement. The proper cases should be chosen for this particular treatment. It should be tried in the future on keloids. Its advantages are: It is cheap; easy to control; prompt in action. Portable tubes are used for office practice. A summary of its action may be quoted as (1) stimulating; (2) destructive; (3) immediate destruction. Further study is needed on this form of treatment to reach its possibilities.

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Dr. Henry Kennedy Gaskill: We have had experience with the "cold cautery" in fifty or sixty patients in the past three years at the Jefferson Hospital with most gratifying results. Included in this series were cases of lupus erythematosis, pigmented moles, capillary nevi, small epitheliomas and tattoo marks. In many cases of nevi, the electric needle was supplemented, for small areas left between applications are difficult to treat otherwise. When the trouble is deep-seated the exposures must be from one minute to one minute and twenty seconds, and we have found that if given in applications of twenty seconds and in two days afterward another application of thirty seconds the resulting scar will be less, though the pain is more. In small pigmented moles the electric needle is still preferable, as often the pigments will be disseminated in a ring around the area. Dr. Stelwagon has adopted a little apparatus consisting of a small metal tube filled with carbon dioxid and a rubber tube with stop cock, originally intended to be sold for the inflation of automobile tires. This tube is about 12 inches long, having a copper cap, which has to be punctured to allow the escape of gas which is collected in a piece of kid firmly bound down with adhesive strips. The snow can readily be molded by hand and with a knife cut in any desired size or can be pressed into an ear speculum. It is wise to measure the area to be treated in order that the surrounding skin may not be involved while the snow is melting under pressure. The larger tubes that are used in drug stores are unsightly as well as awkward to handle and there is some risk of their exploding. This little tube is neat, readily handled and can be carried to the patient's house if desired.

Dr. M. B. Hartzell: I have used the cold cautery and have found it most convenient in appropriate cases, but it is far from being a cure-all. It is a caustic and can accomplish only that which any other caustic can effect. It acts rather superficially, which limits its usefulness and accounts for the slight scarring which follows its use. Its greatest use is in vascular nevi. I do not believe it to be effective in lupus vulgaris; it does not go deep enough. The small tubes have a certain degree of convenience but they are certainly not cheap. A most convenient way of preparing the gas for use is by making a cylinder of thick blotting paper around a stick, and around this wrapping a towel. After molding the carbon-dioxid in the cylinder it can be withdrawn, when you will have a stick of the cold cautery ready for use. I have not used the cautery in lupus erythematosus sufficiently long to be sure of permanent results. I must take exception to the statement that the temperature of the carbon dioxid is materially reduced by dipping in ether.

Dr. Frank C. Knowles: I have employed the carbon-dioxid snow in quite a number of cases and have had the best results in angiomata. The port-wine stains apparently do not respond as well as other discolorations, as do not the very deep-seated angiomata. In cases of lupus erythematosus improvement but not cure has been obtained by this treatment. In the molding of the snow I employ wooden pill-boxes, using the size approximating the area to be treated. When the lesions are small I shape the snow in various-sized ear specula. These simple devices answer admirably, instead of the very expensive and unnecessary appliances so widely advertised.

Treatment of Suppurative Otitis Media (Scarlatinal) by Bacterins

Dr. John A. Kolmer and Dr. P. G. Weston read a paper on this subject which will appear in The Journal.

DISCUSSION

Dr. B. Alexander Randall: The results reported in this paper represent about half of all the work done on this subject, the aggregate of cases treated elsewhere having been hardly more than the hundred cases reported to-night. I am a believer in the matter, but everything of the sort must be dealt with cautiously. The natural history of the disease must be distinctly taken in mind to estimate rightly the value of any treatment. The success of the treatment, together with the fact that other treatment was withdrawn, gives a strong support to the claims made for it. On the other hand, I cannot refrain from feeling that more can be done in the simple measure of irrigation than has been intimated. If the amount of personal attention requisite in the culturing, etc., were given to the older-fashioned style of treatment we

would have a considerable amount of good results. If a child with scarlet fever or other exanthemata is well protected as to the ears with a nightcap much can be done to forestall trouble. If the case is treated early I think we can bring it to a successful issue in children in fair condition of health, in something like three weeks; I have done it in eighteen days.

Dr. B. A. Thomas: Incidentally I would like to criticize the employment of the term "vaccine." I think it is proper that we should use as nearly as possible scientific terms. The therapeutic agent referred to is merely a suspension of dead bacteria in physiologic salt solution, to which has been added a minute quantity of phenol for preservative purposes; hence "bacterin" is the term which scientifically and properly expresses the nature of the preparation. "Vaccine," the term unfortunately employed by Wright, has by common usage become almost universally popularized, but strictly is a misnomer and should be restricted to the virus used in vaccinia, derived from the cow in accordance with the original suggestions of Jenner. Otitis media can be divided into the acute suppurative, and chronic suppurative varieties for bacterin treatment. The treatment has a definite accessory effect in conjunction with other forms of treatment. Local measures should never be omitted. I feel that bacterin therapy in otitis media has a more restricted field as a therapeutic measure than in the vast majority of affections in which it is commonly used. This is largely due to the fact that the middle ear is encased in a bony cage.

Dr. John A. Kolmer: Local treatment in conjunction with the bacterin treatment is advisable if it can be carried out by the physician himself. The average nurse is not able to syringe the ear satisfactorily. We are always careful to see that drainage is free and feel that anything more is unnecessary. The ear is cleansed several times a day and care observed that there is no thickening of the pus leading to retention.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

NEWSPAPER COMMENTS ON A NATIONAL DEPARTMENT OF HEALTH

The proposal to establish a national department of health continues to gain favor among newspaper editors, in spite of the desperate efforts and unlimited expenditures of those having selfish reasons for endeavoring to prevent it. Evidence is not lacking that the prodigal expenditure of money and the unlimited amount of printed matter used in attempting to arouse prejudice against a proposed agency for promoting better health conditions have already caused a reaction, and that the press, as well as the people, is asking what the motives are of those who are ready to devote large amounts of time and money to prevent such legislation. American newspaper men are throroughly familiar with all the devices of the publicity promoter. They know that only those buy newspaper space and printer's ink who expect to get a return for their money. They naturally assume that the funds for the support of such an expensive campaign come from those who fear they would lose their ill-gotten gains if a department of health, backed by the federal government, should do for the whole people what the Department of Agriculture has done for the farmer. The Natchez *Daily News* in a recent editorial comment says, in part:

NO DEPARTMENT OF HEALTH

"... Thoughtful citizens throughout the country will regret the inaction in a matter of transcendent importance to the people. The opposition to the measure comes from many quarters and for many reasons. Certain alleged schools of medicine are opposed to it for specious reasons, though the real reason is that if we had a department of health, what is known as the 'regular' school of medicine might be represented more strongly than all others. Since one school represents over 90 per cent of all physicians, there would not be anything unreasonable to have them more numerously represented in the contemplated department of health.

"In other quarters the opposition is based on the groun that a national department of health would in some mysterious manner interfere with the rights of the states in hom affairs. This ground is poor at best, and insincere in mos cases; . . . The opposition of many well-intentioned me to the establishment of the Department of Agriculture quarter of a century ago was based on the alleged violatio of states' rights; however, states' rights or no rights, th Department of Agriculture is doing a very useful work, an its agency for good is no longer a matter of dispute. Th most fanatical states' rights men do not hesitate to wor tooth and nail for the improvement of rivers in their districts and for the increase of the powers of the Interstate Commerc Commission, the states regulation not being sufficient.

"The real opposition is chiefly due to the wilful ignorin of the fact that human health and life should be the firs care of the state and of the legislator. The most freely moving object between states is man, and yet less is done to control human disease and to gather statistics concerning hi birth, life and death than is done for cattle. We resort t the federal government to eradicate the tick in cattle o cholera in hogs, yet, according to some Democrats, states rights are in the way when it comes to the establishment of Department of Health. No doubt, such a department will b established some day, . . . when the general interest in th welfare of our children will at least equal that in the thrivi of our pigs. Some day when the real concerns of the peopl will receive as much attention as politics, we may have department of health."

The argument of the *News* effectually disposes of the states' rights objector. Coming from a southern newspaper of influence, this statement is significant, yet it is no more than i to be expected. The southern states have learned the valu of federal aid in the suppression of epidemics and the preservation of life. The advocates of states' rights in public healt matters will not come from the south.

Equally significant is a recent editorial comment of the Boston *Advertiser*, which considers the question from a economic and social standpoint; and particularly worthy o note is the emphasis laid on the necessity of public opinion in the protection of public health. The *Advertiser* says, in part:

"The agitation for a national department of public health at Washington, is based on some sound and able arguments including that of economy in public service. There has bee plenty of misdirected effort in the confusion which arises fro the existence of so many branches of sanitary service, unde the direction of different departments or bureaus of the government service. It would be possible to secure greater efficiency with striking economy, as compared with existing conditions, if the work were all placed under the control of a single department or bureau. . . . .

"But the fact remains that the real, vital force that must protect the public health, if it is ever to be protected, will be found in the force of public opinion. If the people will but insist on legislation which will safeguard their interests and their lives, it will be possible for the national and the state departments of health to do what should be done; but that time has not yet come. Perhaps it will never come within the lifetime of this generation. Something may be done, here or there, for the suppression of epidemics, for the elimination of the most evident and most striking dangers to public health; but until the people make it their business to vote at the polls for their own protection against the greed or the indifference which annually sacrifices the lives of tens of thousands, there will be no hope for any adequate protection of the people against the results of insanitary methods in workshops, farms, cities, and country, generally."

The Chicago *Tribune* recently discussed the question editorially from the humanitarian standpoint, laying special emphasis on the unnecessary and avoidable loss of life under existing conditions. Under the heading "American Waste of Life," the *Tribune* says:

"When the federal government appropriated large sums to relieve such distress as was occasioned by the San Francisco or the Messina disaster, every one approved the action with a warm glow at the heart. Such aid is in every way commendable, but it is *aid after the fact*. . . . Every day of the year there die by preventable diseases or accident a number equal to the full crews of two battleships. For the loss of one such crew we went to war with Spain. Every three months as many lives are sacrificed to those causes as there are men in the United States army. *All the dead in* every war we have had since 1776 only equal the yearly toll made by disease and accident in this country.

"Last year the entire population of Indianapolis died of degenerative diseases. Tuberculosis swept away every man, woman and child in Paterson, N. J. Pneumonia carried off all of the inhabitants of Wilmington, Del., and every one in Yonkers was killed by an accident. If these things really happened the whole world would be shocked and our government would stop all other legislation to enact laws looking to the prevention of such catastrophes in the future. But because these diseases carry off their victims not all in one place but in many places over the country we do nothing about it.

"President Taft has had this matter much at heart. He favors the proposed department of health and he is quoted as saying: 'There is nothing in the constitution especially about hogs, or cattle, or horses, and if out of the public treasury at Washington we can establish a department for that purpose it does not seem a long step or a stretch of logic to say that we have the power to spend the money in a bureau of research to tell how we can develop good men and good women.' Fear has been expressed that the establishment of a national health department will curtail individual liberty, but the Department of Agriculture has helped, not hurt, the farmer, and that of Commerce and Labor has immeasurably benefited the workingman and the merchant. . . .

"We are prodigal of life in a measure which amounts to impiety. The waste must be stopped, not by leaving it to the doctors but by the establishment of research bureaus, the popular education of the people in sanitary matters, and by the enforcement, when necessary, of laws designed for protection of the public against disease and accidents."

Of the three methods by which the *Tribune* proposes to stop the waste of life, probably all will admit that the second—"the popular education of the people in sanitary matters"—is the most important. So long as the people know no better, they will continue to be duped and misled by the quacks, fakers and swindlers who have preyed on them for years. It is the duty of those who know the facts to place them before the people. As soon as this is done, it will require more than one "national league" to prevent the government from protecting the lives and health of our citizens.

Especially interesting are the editorial comments of the Chicago *Tribune* in a later issue regarding the recommendations on the creation of a bureau of health contained in the President's message to Congress. The *Tribune* says:

> "Another well-considered recommendation is that on behalf of the unjustly attacked bureau of health, already recommended in a previous message. The objections raised were partly disingenuous and partly mistaken, and should not be permitted further to postpone the creation of this useful bureau. One of the great public services which it is to be expected will be performed by such an institution is to give effective aid to the proper authorities for the suppression of the criminal traffic in nostrums and dangerous drugs."

In the last sentence of the extract quoted above is to be found the explanation for the opposition to the organization of an efficient federal health department. Those who have fattened for years on public ignorance and carelessness would have the people believe that the medical profession of the United States is composed of political plotters and schemers, endeavoring to advance their own interests at the expense of the public. To avoid the charge of wholesale slander on a profession, they assert that the majority of physicians are unselfish but that they are dominated by a few "political doctors." Truly, the American Medical Association is blessed in the enemies which it has made. No better evidence of the unselfishness of its aims could be asked than the methods and the arguments by which its work is being opposed. Those who favor and are working for a national department of public health should feel under deep obligations to the "National League of Medical Freedom," since this organization is truly educating the public with an effectiveness that leaves little to to be desired.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Second Weekly Meeting

Preparation of Patient for Anesthetic

Time of anesthetic. Diet. Clothing. Foreign bodies in mouth. Gavage. Operating room. Position of patient for anesthetic.

Choice of an Anesthetic

In Healthy Subjects: For brief operations, for prolonged anesthesia. Age, sex, pregnancy.

In Disease: Alcoholism, diseases of the respiratory tract, diseases of heart and blood-vessels, renal disease, shock from trauma, collapse from hemorrhage, ruptured viscera, etc.

In Operative Surgery: Operations about head, neck, face, nose, eyes, trachea, thyroid, thorax. In abdominal surgery. In labor.

Indications and Contraindications for Ether and Chloroform.

Anesthesia by Sequence: Advantages and disadvantages.

Scopolamin-Morphin Anesthesia: Status, dangers.

Accidents During Anesthesia

Suffocation: Causes and treatment.

Respiratory Paralysis: Incidence, causes.

Cardiac Paralysis: Causes, incidence.

Treatment: Of cardiac and respiratory failure; artificial respiration, cardiac massage, rhythmic traction of tongue, epinephrin, faradism, amyl nitrite.

Sequelæ of Anesthesia: Vomiting. Shock. Post-anesthetic and central anesthetic palsies. Lung complications. Renal complications. Delayed chloroform poisoning.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

Kansas: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

Nebraska: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

New York: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Annual Meeting of National Confederation of State Boards

The National Confederation of State Medical Examining and Licensing Boards has announced that its twenty-first annual meeting will be held at the Congress Hotel, Chicago, Tuesday, Feb. 28, 1911, on the day preceding the conference of the Council on Medical Education. The program will include a symposium on "State Control of Medical Colleges," which subject will be considered from the view points of the state, the law, the college, the licensing board and the medical profession.

Joint Conference on Medical Education and Medical Legislation

The American Medical Association's second joint conference on medical education and medical legislation will be held at the Congress Hotel (formerly Auditorium Annex), Chicago, Wednesday, Thursday and Friday, March 1, 2 and 3, 1911, the first session to begin at 9 o'clock Wednesday morning.

Wednesday, March 1, will be taken up by the seventh annual conference of the Council on Medical Education of the American Medical Association, the program for which will include addresses and reports on preliminary education, the five-year medical course, laboratory facilities and instruction, hospital facilities and instruction, the hospital year, the license examination and reciprocity. For Wednesday evening, an address from some well-known speaker has been planned.

Thursday, March 2, will be devoted to a joint conference on medical practice legislation of the Council on Medical Education and the Council on Health and Public Instruction. The program will include discussions of medical practice laws from the standpoint of the legislator, lawyer, judge and sociologist; also, a discussion of the enforcement of medical practice acts.

Friday, March 3, will be devoted to a conference on legislative matters, including vital statistics, pure foods and drugs, expert testimony, etc.

Reservation of rooms can be made in advance at any of the hotels in the city. The Congress, Auditorium, Stratford and Blackstone hotels are conveniently located on Michigan Avenue within easy reach of the meeting-place.

Tennessee May Report

Dr. C. A. Abernathy, secretary of the State Board of Medical Examiners of Tennessee, reports the written examinations held at Nashville, Knoxville and Memphis, May 3-4, 1910. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 367, of whom 315 passed, including 142 non-graduates, and 52 failed, including 25 non-graduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1908)	90.6
Indiana Medical College	(1906)	78.7
University of Louisville	(1909) 76.2, 84.2; (1910)	79.4, 80, 83.1, 83.9, 84.7, 87.2, 91.2, 91.6.
Tulane University of Louisiana	(1903) 88.9; (1909)	90
Univ. of Michigan, College of Med.	(1907) 90.5; (1908)	94.9
Baltimore Medical College	(1907)	90.2
University of Maryland	(1909)	80.9
Tufts College Medical School	(1897)	92 7
Mississippi Medical College	(1908) 85.6; (1910)	76.4, 84 1
Missouri Medical College	(1885)	84 2
Leonard Medical School	(1909)	82 5
College of Physicians and Surgeons, Memphis	(1907) 75.2; (1910)	78, 80.2, 88.7, 88.9, 90.
Memphis Hospital Medical College	(1899) 83.2; (1901) 80.5; (1908) 82.4; (1909) 78.1; (1910)	75, 76.6, 77.5, 77.7, 79.6, 80.2, 80.7, 80.7, 82.4, 82.6, 82.6, 82.9, 82.9, 83 2, 83.4, 83.4, 84.1, 84.1, 84.7, 84.7, 85.7, 86.2, 86.9, 87.5, 88.2, 88.7, 89, 91.5, 92.2, 92.5, 94.9.
University of Nashville	(1902) 80.7; (1907) 93; (1908) 91 4; (1909) 90.4; (1910)	82.5, 83.7, 84, 84, 84.1, 84.2, 85.9, 86.2, 86.2, 86.9, 87.5, 89.2, 89.5, 89.7, 89.7, 90, 90.9, 91.4, 91.7, 92.9, 94.1, 94 1.
University of Tennessee	(1907) 83.5; (1908) 77.7; (1909 79 2; (1910)	85.9.
Meharry Medical College	(1905) 87.2; (1906) 77.6; (1909) 79 7, 79.7, 83.4; (1910)	75 5, 78.1, 78 4, 78.5, 80.4, 82.9, 84.2, 84.9, 86.2, 87.4, 87.9, 88.1, 88.7.
Vanderbilt University	(1901) 91; (1909) 89, 93; (1910)	83, 87.9, 88.4, 90.1, 90.2, 93 6, 95.1, 95.4.
University of the South	(1905) 82.2, 92; (1909)	79.5, 81.1, 81.7, 84.7.
Tennessee Medical College	(1904) 79.1, 80.7; (1908) 77.1; (1910)	79, 83, 85.1, 85.5, 85 6, 86.7, 87, 87.7, 88, 88.2, 88.2, 89.1, 90.1, 90.7, 90.7, 91.5, 93.1, 93.5.
Chattanooga Medical College	(1908) 82.4, 92.7; (1909) 84.6, 91; (1910)	77.1, 81, 81.7, 83.5, 83.6, 85.2, 85.6, 85.4, 87.1, 87.2, 89.9.
University of West Tennessee	(1909) 76.2; (1910)	76.5
Knoxville Medical College	(1910)	89.6
University of Pennsylvania	(1907)	90.7
University of Virginia	(1892) 85; (1905) 90.2; (1908)	93.4
FAILED		
University of Louisville	(1910)	69.9
Mississippi Medical College	(1908)	68.1
Meharry Medical College	(1909) 74.5; (1910)	60.6, 62.6, 67.2, 67.4, 70, 71.6
Chattanooga Medical College	(1905) 70.2; (1910) 72.6, 74.4; (1907) 61.7; (1908)	71.5.
University of Nashville	(1908) 70.9; (1910)	59.4, 68.2, 73 6
Tennessee Medical College	(1906)	68.9
College of Physicians and Surgeons, Memphis	(1910)	65.7, 69.2
University of the South	(1909)	73.6
Memphis Hospital Medical College	(1910)	25, 72.2
University of West Tennessee	(1910)	67.6
University of Tennessee	(1893)	64.5
Gate City Medical College	(1905)	71

ANATOMY

1. What organs are found in abdominal cavity? 2. Describe the abdominal cavity. Muscles and bones that form the same. 3. Name the muscles of the gluteal region, origin and insertion of same. 4. Describe the femur and the bones with which it articulates. 5. What organs are found in the thoracic cavity? 6. Name the facial muscles. 7. Trace the femoral artery. Name the important branches given off by same. 8. Name ten cranial nerves.

PHYSIOLOGY

1. Name the principal chemical elements found in the human body. 2. Mention the enzymes found in the gastro-intestinal canal and the action of each. 3. What is the function of the iron of the red blood cells? 4. Name the three cardiac ganglia 5. What causes the blood flow in the veins? 6. What are the functions of the suprarenal glands? 7. Mention the principal automatic and reflex centers found in the medulla. 8. What would be the effect of a lesion of the lower half of the pons Varolii 9. If the left occipital lobe of the brain were destroyed, what would be the effect on the sense of sight?

PATHOLOGY

1. Describe the pathology of the liver, lungs and blood in pernicious intermittent fever. 2. Give the pathology of the gastric intestinal tract in acute alcoholism. 3. Describe the pathologic changes in the blood in pyemia. 4. Describe the pathology of the blood in septicemia. 5. Describe the pathology of scurvy. 6. Describe the pathology of gonorrheal arthritis. 7. Describe the pathology of the joints when the seat of chronic inflammatory rheumatism. 8. Describe the morbid changes in the valves in mitral stenosis.

CHEMISTRY

1. Give the chemical formula for carbolic acid. How is it obtained and what are its properties and uses? 2. Give chemical formula for ethyl chlorid. How prepared and its uses? 3. Explain how water and its contained impurities may become purified by running in a shallow stream over a precipice. 4. Give chemical test for free hydrochloric acid in stomach contents. 5. What is the range of the specific gravity of normal urine? State what diseased conditions produce (a) an abnormally high specific gravity of the urine, (b) a low specific gravity of the urine? 6. When testing for glycosuria with Fehling's solution, how do you determine whether the reaction is that of sugar or some other reducing agent? 7. How do you detect the presence of bile in a specimen of urine? Name the principal bile pigments. 8. What is the urinometer? State its importance as an aid to diagnosis.

PRACTICE

1. Name the diseases which you expect to encounter in your practice in Tennessee. Name your methods of making diagnosis of diseases. 2. Name the specific causes of lobar pneumonia. What would auscultation and percussion reveal in the first stage of congestion of the lung? Give a treatment for lobar pneumonia. 3. What is endocarditis? Name the causes which produce it. Give treatment for it. 4. Name the specific cause of typhoid fever. How does it gain entrance to the body? Differentiate typhoid fever from remittent fever. Give a general treatment for typhoid fever. 5. What is cerebrospinal meningitis? Name its specific cause. Differentiate between epidemic cerebrospinal meningitis and tuberculous meningitis. Give the clinical features of each. 6. Describe the eruption of small-pox. Of chicken-pox and of measles. What is the period of incubation of each? 7. Give the differential diagnosis between tonsillar diphtheria and follicular tonsillitis. Name the treatment for diphtheria. 8. Name the chronic diseases of the liver. What are the symptoms of obstruction of the common bile duct? What are the symptoms and clinical manifestations of biliary calculi? Name a treatment for biliary calculi.

SURGERY

1. State the constitutional effects and give the treatment of burns. 2. What general principles govern the diagnosis of a tumor? 3. Describe a method of differentiating between (a) the urethra, (b) the bladder and (c) the kidneys as the source of pus in the urine. 4. State the most common seat of fracture of the clavicle and describe a method of treatment. 5. Describe the steps in the treatment of a scalp wound. 6. Make a differential diagnosis of coma from (*a*) injury, (*b*) apoplexy, (*c*) uremia, (*d*) opium poisoning and (*e*) alcoholic intoxication. 7. What are the symptoms and treatment of a sprained ankle? 8. What arteries need ligating in amputation at the middle third of the leg? Describe your method of ligating.

OBSTETRICS

1. State in detail your management of a normal labor from its inception to its close. 2. Give the differential diagnosis between a primiparous and multiparous woman. How would you calculate the date of confinement? 3. Mention the signs of pregnancy at three months and at six months, naming them in order of their importance. 4 What is your opinion of the Cesarean section? At what time and under what conditions would you advise it? 5. After the period of viability, how would you diagnose a dead fetus, and, if dead, what would you do, and how would you do it? 6. Given a case of placenta prævia approximating full term, what would you do? Give advantages and disadvantages of various procedures as regards safety of both mother and child. 7. Mention the uterine displacements that are liable to influence (*b*) conception, (*c*) pregnancy and (*d*) labor, and state the reasons for such influence. 8. Give a differential diagnosis between ovaritis and ovaralgia.

MATERIA MEDICA

1. What is magnesium sulphate? Give its use in the practice of medicine. 2. From what source is heroin, and what is the dose? 3. Give the source of atropin, and dose. 4. What is hydrastis? Give the dose, and describe the pathologic lesion for which you would use it. 5. What is the source of sulphocarbolate of zinc? 6. What preparation of iron is used in erysipelas? The dose? How often repeated, and mode of administration? 7. For what pathologic lesion would you use iodin? 8. What is the dose of calcium sulphid? Potassium chlorate? Potassium bromid?

Texas June Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 28-30, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 139, of whom 135 passed, including 6 osteopaths, and 4 failed. The college and year of graduation for one candidate who failed was not obtained. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama................(1875) 75;	(1910)	83.7
....	(1909)	86.4
and Surg....(1902) 77.2;	(1910)	75
na..........................	(1900)	81.9
ge..........................	(1906)	81.9
Medical College...........	(1908)	83.9
............(1894) 75;	(1909)	82.3
Kentucky School of Medicine.....................	(1876)	75.7
Tulane University of Louisiana (1904) 78.4; (1909) 78.5; (1910) 78.7, 82.5, 82.5.		
University of Maryland..........................	(1904)	75
College of Physicians and Surgeons, Baltimore.....	(1910)	84.8
Harvard Medical School.........................	(1888)	75
Kansas City Hahnemann Medical College..........	(1910)	89.9
American Medical College, St. Louis.............	(1910)	82.9
Barnes Medical College.........................	(1910)	78.3
St. Louis College of Physicians and Surgeons......	(1909)	77.8
Kansas City Medical College.....................	(1882)	75
Missouri Medical Coollege...........(1873) 75.2;	(1876)	75.8
Bellevue Hospital Medical College................	(1885)	76.5
North Carolina Medical College..................	(1909)	84.1
Jefferson Medical College, Philadelphia...........	(1895)	81.7
Woman's Med. Coll. of Pennsylvania (1896) 79.9;	(1905)	92.4
University of Pennsylvania...........(1860) 75;	(1907)	90.8
University of Tennessee..........(1907) 86;	(1910)	83.3
University of the South..........................	(1908)	81.2
Vanderbilt University (1890) 75; (1909) 85; (1910) 82.7, 84.8, 89.7.		
Memphis Hospital Medical College (1902) 85.7; (1903) 79.9; (1907) 84.7; (1909) 75.5, 86.7; (1910) 75.7, 78.8, 79.2, 79.8, 90.5.		
College of Physicians and Surgeons, Memphis....	(1907)	79.3
Meharry Medical College (1909) 80.8; (1910) 75, 75, 91.6.		
University of Nashville (1904) 77.3; (1909) 78; (1910) 75.		
Baylor University 75.5 (1910) 79.9, 80.4, 80.7, 83.6, 86.7, 89.5, 90.3.		
Fort Worth University (1910) 75, 75.6, 79.7, 80.4, 80.7, 81.2, 82.1, 82.7, 82.9, 84.3, 84.4, 84.5, 84.7, 88.2, 88.3, 93.3, 93.3, 90.8, 90.9.		
Southwestern University Medical College, Dallas (1910) 76.6, 77, 79.5, 80.9, 81, 82.4, 82.5, 84.3, 85.3, 86.2.		
University of Texas (1906) 86.4; (1907) 75.6; (1910) 77.7, 79.5, 79.8, 80.8, 81.1, 83, 83.2, 83.7, 83.8, 84.7, 84.9, 84.9, 85,6, 85.7, 86.2, 86.6, 87.3, 87.4, 87.5, 87.7, 87.8, 87.8, 88.1, 90, 90.1, 90.5, 90.8, 91.5, 91.7, 92.4, 95.5.		

FAILED

College	Year Grad.	Per Cent.
Louisville Medical College.........................	(1890)	51.8
Maryland Medical College.........................	(1905)	65.6
St. Louis College of Physicians and Surgeons.......	(1909)	69.3

The following questions were asked:

ANATOMY

1. Give the origin, relation, course and distribution of the posterior tibial artery. 2. Give the muscles of the orbital region, describing one, giving its attachments and insertion with its action and nerve supply. 3. Describe the posterior triangular space of neck, naming the structures found therein, together with their relation to each other. 4. Describe the ulna, giving its muscular attachments. 5. Describe knee joint, giving the osseous and ligamentous structures that enter into its formation. 6. Describe the collateral circulation around the elbow. 7. Describe the perineum, giving the nerve and blood-supply to the parts, together with their *source and relations. 8. Name the extensor group of muscles of the* forearm; describe one fully, giving its attachment and insertion, together with its action and nerve supply. 9. Describe the brachial plexus of nerves. 10. Outline and give a gross description of the liver, together with its relation to the internal organs.

BACTERIOLOGY

1. Describe the Gram method of staining. 2. Name three pathogenic bacteria that are stained by the Gram method. 3. Name or give examples of three different bacteria which do not stain readily. 4. Describe the process of staining blood. 5. In normal blood, stained. describe the various cells. 6. Name three different pus-producing bacteria. 7. What are the chief effects of bacterial growth? 8. Before being accepted as the cause of a given disease a germ must conform to what is known as "Koch's Four Laws"; name them. 9. In diagnosis, name the means for identifying bacteria. 10. What are ptomains and toxins?

PATHOLOGY

1. Panaritium tendinium: Give its pathology and give reason why a felon of the thumb and little finger is more liable to spread into the palm of the hand than felon of the three middle fingers. 2. Wounds: In a wound of any kind, septic or aseptic, certain principles of treatment if faithfully carried out, will greatly contribute toward a union by first intention. Name these principles. 3. Poisons: Caustics and irritants—describe their effects on the body tissues and how these effects are brought about. 4. Give causes of catarrhal jaundice and its effect on the system. 5. Give pathology of pleurisy and name the two diseases it most commonly occurs in as a complication. 6. Give pathology of phlegmonous tonsillitis. 7. Give pathology of yellow atrophy of the liver. 8. Name three varieties of sarcoma and describe the cells of each variety named. 9. Typhoid fever: Give its cause and pathology. 10. Dermoid cysts: To what class of tumors do they belong, and on what parts of the body do they most frequently occur?

HISTOLOGY

1. Describe the histologic structure of the skin. 2. Describe the histologic structure of the pancreas. 3. Describe the histologic *structure of the tonsils. 4. Where is unstriped muscular tissue* found? 5. Describe the Pacinian corpuscle. 6. Give the histologic difference between the wall of an artery and the wall of a vein. 7. *Name the genital organs of the male system and describe the vas* deferens. 8. Name the genital organs of the female system, and, if any, what is the difference between the mucosa of the body of the uterus and that of the cervix? 9. Enumerate the different epithelia, giving a locality or organ in which each predominates. 10. Describe the microscopic appearance of a cross-section of a nerve-fiber.

CHEMISTRY

1. Give toxic symptoms of bismuth; (b) say how they may occur; (c) and describe a test for same. 2. Give symptoms of fatal dose, and (b) treatment of ammonium hydroxid poisoning. 3. Give Graham's law covering diffusion of gases. 4. The presence of ammonia in excess of 0.05 mg. per liter in water indicates what? 5. What is acetone? (b) clinical significance. (d) Describe a practical test for same. 6. Define hemoglobinuria and give test for hemoglobin. 7. Give a simple, practical test for pus in the urine. 8. What is muscarin; (b) where found; (c) symptoms of poisoning; (d) antidote? 9. How is the specific gravity of a gas determined? 10. Differentiate dialysis and osmosis.

PHYSIOLOGY

1. Name the nerves supplying the tongue; (b) give the function of each. 2. Give the velocity of the blood flow in the large arteries; (b) capillaries; (c) give time necessary for a complete circulation of the blood; (d) give velocity of nerve impulse. 3. To classify all the senses as external and internal; name five belonging to each class. 4. Give action and tell where found of the following enzymes: (b) amylopsin; (c) invertase; (d) lipase; (e) pepsin; (f) erepsin. 5. What tissues of the body possess marked power of contractility? 6. Name the nerves supplying the heart; (b) give function of each. 7. What artificial stimuli may produce muscular contraction? 8. What is the normal blood-pressure in an adult, expressed in mm's.? 9. Define the following terms: (b) tidal; (c) complemental; (d) supplemental; and (e) residual air; and (f) vital capacity. 10. Define (a) miosis; (b) mydriasis; (c) eupnea; (d) necremia; (e) hydremia; (f) choluria; (g) biotomy; (h) albuminuria; (i) alopecia; (j) chemosis.

MEDICAL JURISPRUDENCE

1. Give the eight varieties and classification of insanity. 2. What is meant by justifiable abortion? (b) Differentiate justifiable abortion from criminal abortion. 3. Give the chemical tests of blood. 4. What is meant by rape? (b) Give the three important constant symptoms or signs as medical testimony in alleged rape. 5. What do you understand by age of consent in reference to rape? 6. Give common cause of death from wounds. 7. Describe death from and give the post-mortem signs of strangulation. 8. Describe, define and differentiate illusion, delusion and hallucination and the lucid interval. 9. What are the effects of exposure to extreme heat? 10. By what means may the dead be identified?

PHYSICAL DIAGNOSIS

1. Give the physical signs of Raynaud's disease and describe the different grades. 2. What is meant by dyspnea? In what disease is it a prominent symptom? 3. Name six causes for the displacement of the cardiac apex. 4. Name the points to be noted when taking the pulse. 5. Give the most important signs of thoracic aneurysm. 6 Name the different groups of emphysema and describe each briefly. 7. What organs can be felt through the abdominal walls by palpation? 8. Name the most common diseases affecting the peritoneum and the commonest cause of local peritonitis. 9. What is meant by jaundice and give some of the causes? 10. Name some of the symptoms of intestinal diseases.

SURGERY

1. How do you prepare patients for the administration of anesthetics? 2. How do you treat acute synovitis? 3. How is the callus disposed about a fracture? 4. What are the causes of gangrene? 5. What complications accompany fractured ribs? 6. What symptoms denote malignant disease of the prostate? 7. What changes take place in strangulated hernia? 8. What precautions are observed in excising a joint? 9. Under what circumstances should the head of the femur be excised? 10. Give differential diagnosis between intracapsular fracture and extracapsular.

OBSTETRICS

1. Describe the human embryo during the fourth, sixth and eighth months, giving the appearance and weight. 2. What effect would double ovariotomy have on the fetus of five months' gestation? 3. Describe changes occurring in the blood during gestation. 4. What are the effects of an acute zymotic disease during pregnancy on (a) mother, (b) child? 5. What are the dangers to (a) mother; (b) the child, from gonorrhea during pregnancy and labor? 6. What is the significance of glycosuria during pregnancy and the frequency of its occurrence during pregnancy? 7. Causes, pathology and treatment of puerperal eclampsia and the danger signs of impending eclampsia. 8. Give the varieties of puerperal eclampsia and their differential diagnosis. 9. What is Tavnier's signs of inevitable abortion? Give its importance in the diagnosis of inevitable abortion. 10. Give formation of caput succedaneum and where does the caput succedaneum appear in the third position?

GYNECOLOGY

1. *Give clinical symptoms of stenosis of the cervix and give* remedy. 2. Give differential clinical diagnosis of cervical stenosis and atresia of the vagina. 3. Give the classifications and causes of dysmenorrhea. 4. Give the causes of and remedy for procidentia. 5. Give differential diagnosis of ovaritis and appendicitis in a young woman. Would you or would you not advise operative procedure in either condition? 6. For what pathologic condition would you advise amputation of the cervix? 7. What are the relations between menstruation and ovulation? 8. Give the hygiene of the menstrual period. 9. What is artificial menopause, its etiology and the path*ologic conditions that justify it?* 10. When and for what purpose would you use the following suture material: silk, silkworm gut, plain catgut, chromic catgut and silver wire, in gynecologic work?

HYGIENE

1. Why and how is carbon dioxid deleterious to health? 2. Name the chemical germicides most commonly used and the proportions employed. 3. What is the difference between fermentation, oxidation and putrefaction? 4. Mention the preventable epidemic diseases and state how you would stop the spread of each. 5. Name and describe the principal chemical elements of food, giving the use of each. 6. What is the effect of alcohol on the nerve centers, circulation? 7. How are impurities in water classified? How can they be detected, and why is the presence of organic material in drinking water deleterious? 8. Give the principal factors on which natural and acquired immunity depends. 9. Give period of detention of persons exposed to the following infectious diseases: smallpox, measles, scarlet fever, diphtheria, cholera, typhoid fever and yellow fever 10. Give the formation of the four standard disinfecting solutions.

Book Notices

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M.D., Visiting Gastro-Enterologist to the People's Hospital. Cloth. Price, $6. Pp. 836, with 108 illustrations. Philadelphia: F. A. Davis Co., 1910.

The contributions of American authors to the literature of gastric disorders have been notable from Beaumont's time to the present; several excellent works on diseases of the stomach by Americans are fit to rank with those of the best foreign authors. This series of notable works is worthily continued by the book under consideration. The results of modern investigation are fully presented, including a considerable amount which is original with the author. The anatomy and physiology of the digestive organs are considered in a brief but practical manner. The section on physiology includes a statement of the principles of nutrition and heat production. The methods of examination are exhaustively described. Bassler gives much credit to the method of auscultatory percussion which has been slightingly handled by some authors. This section of the book is illustrated by fifteen plates, showing *x*-ray pictures of the stomach in various conditions. Considerable light is thrown on the difficulties experienced in removing stomach contents through the tube by the author's skiagraphs of a stomach-tube filled with bismuth paste and introduced into stomachs of various sizes and conditions. In the chapter on diet are some valuable tables on the composition of foods. Therapeutics are carefully considered, and the opinions expressed are sound and embody some of importance that have waited for this volume to find expression. The fact that alcohol increases the acid but not the pepsin of the gastric juice and that its action is therefore pathologic is carefully explained; the remedy is not recommended unless in exceptional cases. Digestive ferments find almost no place in the author's therapy. He also calls attention to the fact that stomach mucus is primarily protective and does not usually need to be removed. The clinical section dealing with the various diseases of the stomach gives a large mass of data well worked out and contains a practical guide for the treatment of these diseases by the general practitioner as well as by the specialist.

Some minor errors may be noted which undoubtedly will be corrected in the next edition. It would seem that so well-informed an author ought to recognize the rights of modern chemical nomenclature and no longer refer to the fats as hydrocarbons. A more serious error occurs on page 185 where the use of potassium chlorid instead of the chlorate is directed in performing the iron test for blood. The author states that Boas-Oppler bacilli do not stain with iodin, while such staining is mentioned by other authors as one of their chief characteristics. An error has been made in describing the method of nitrogen estimation on page 267. The amount of urea would be found by multiplying the nitrogen found by 2 instead of 20. Legal's test for acetone (p. 190) is simplified by the omission of sodium nitroprussid; this occurs possibly by mistake, but it is doubtful if the directions will prove a very useful guide in their present form. The description of Strauss' method of examination for lactic acid (p. 178) is incorrect and impracticable. Other mistakes have been allowed to slip through; thus the calorific power of butter is put at 475 calories per pound, evidently 10 times too low. The Latin of the prescriptions is decidedly faulty, the genitive endings having been frequently omitted. A gradual transition from Latin to English prescriptions is indicated by the mixed variety, in which both languages are employed indiscriminately, thus:

℞.	Bismuthi subnitratis	6.0
	Ceril oxalatis	2.0
	Peppermint sugar	3.0
	Fiat Chart. No. x.	

Obsolete or unusual words are used. In the haste of composition the grammatical construction has frequently been allowed to shift for itself. Although it is distasteful to criticize the literary style of so good an author, we feel that the attention of the publishers should be called to the matter.

Dyspepsia: Its Varieties and Treatment. By W. Soltau Fenwick, M.D., Doctor of Medicine of the University of Strasburg, Cloth. Price, $3 net. Pp. 485, with illustrations. Philadelphia: W. B. Saunders Co., 1910.

Under the term "dyspepsia"—a very indefinite one for the title of a medical book in an age of scientific precision—Fenwick includes nearly all affections of the stomach and intestines. The author comments on the failure of treatment which adheres too closely to the indications derived solely from laboratory examinations; he calls attention to the fact that drugs which are supposed to control gastric motility or secretion seldom do what is expected of them. The influence of the mind and nervous system on the stomach is recognized. The etiology of dyspepsia involves the consideration of the influences flowing from other organs and from various general pathologic states. These receive special attention in the work. The irritating effect of various foreign bodies, such as hair balls, insects and other living creatures, seldom more than noticed by other authors, receive due attention.

Notwithstanding the critical attitude toward laboratory work, a sufficient account of the results of these investigations has been incorporated in the account of the symptomatology. The value of the book lies in its comprehensive treatment of the subject from the clinical standpoint. The introduction of laboratory technic, which the limits of the work preclude from being completely described, might better have been omitted. Thus in the account of intestinal indigestion two chemical methods quite beyond the skill of the average practitioner are introduced, but the more feasible methods of microscopic examination are merely mentioned. The significance of the findings is very inadequately discussed. With these exceptions the book presents little to criticize and its utility to the average practitioner is enhanced by the fact that it treats the subject from a somewhat unusual point of view.

Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons. Eighteenth Edition. Revised and re-edited by Edward A. Spitzka, M.D., Professor of General Anatomy in the Jefferson Medical College, Philadelphia. Cloth. Price, $6 net. Pp. 1,496, with 1,208 illustrations. Philadelphia: Lea & Febiger, 1910.

It seems scarcely possible that new editions of text-books on anatomy can present much that is new, yet the eighteenth edition of this well and widely known work contains many new ideas intended to increase its value as a text-book. Much of the text has been rewritten and rearranged, the new arrangement being according to sequence of subjects, so that the student receives his knowledge of parts in the order of their anatomic dependence. The spleen and suprarenals have been placed among the ductless glands. The urinary and generative organs are placed together in a chapter on "The Urinogenital Organs." The chapters on the surgical anatomy of hernia and on the dissection of the peritoneum have been omitted, the descriptions being given only in their proper place. Ample directions are given for dissecting. Embryology and histology come in for their usual share of consideration. The name of each structure is printed in black-face type followed by the Basel nomenclature in italics; thus it is easy to find a given reference on a certain page.

Although the text has been enlarged considerably, smaller type has been used freely, so that the size of the book is not increased, and by condensation and omission of duplications, such as those mentioned, the work is made more compact. On the whole, the book has not lost any of its good features; many new ones have been added, and the objectionable features found in the previous edition have been removed. The editor is to be congratulated on the successful completion of a very difficult task in this revision.

Hydrotherapy. A Work on Hydrotherapy in General, Its Application to Special Affections, the Technic or Processes Employed and the Use of Waters Internally. By Guy Hinsdale, M. D., Secretary of the American Climatological Association. Cloth. Price, $3.50. Pp. 466, with 145 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The neglect of physiologic remedies, of which many physicians in the past have been guilty, is rapidly being replaced by an active interest in these useful therapeutic agents. As one of the most valuable, hydrotherapy has received a good share of attention during the past few years, a fact which is evidenced by the number of books that have appeared on the subject.

In spite of this, Dr. Hinsdale's book needs no apology, since it presents the subject in a clear and untechnical form and its author does not attempt to convey the idea—as do so many who write on special forms of therapy—that this particular method of treatment is the last word in therapeutics. As the author says, while he "is a firm believer in using physiologic therapeutics wherever possible, he by no means wishes to exclude the use of drugs," because he believes that "rational therapeutics calls for their use." The book deals not only with hydrotherapy as the term is usually understood—including balneotherapy—but also with crounotherapy or the internal use of mineral waters. The larger part of the volume, naturally, is devoted to the subject of hydrotherapy, which for convenience has been divided into three parts: general hydrotherapy, special hydrotherapy and the technic of hydrotherapy.

The value, and also the limitations, of the use of water in various diseased conditions are conservatively and plainly stated and the methods of getting the best results from the use of this agent are described.

The Surgery of Childhood. Including Orthopedic Surgery. By De Forest Willard, M.D., Professor of Orthopedic Surgery, University of Pennsylvania. Cloth. Price, $7. Pp. 800, with 729 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This complete treatise on the surgery of childhood covers an enormous amount of ground, especial emphasis being laid on orthopedic conditions. In view of the great amount of material to be covered, numerous non-surgical conditions that are described might well have been omitted; for example, thrush, aphthous ulcers, masturbation, spermatorrhea, scurvy, earache, etc.

Under the treatment of scurvy rickets, only oil of erigeron and epinephrin are mentioned to stop the bleeding from the gums; no mention is made of fruit-juices, nor is the possibility of mistaking a subperiosteal hematoma for an acute osteomyelitis mentioned. In the surgery of pyloric stenosis, divulsion is advocated. This is not in agreement with the literature on this subject. As long as mastitis of the new-born is mentioned, there seems to be no good reason for omitting the fact that abscesses do occur and need surgical attention.

In spite of a few minor points, largely non-surgical, on which the book needs revision, it covers the subject very completely, especially in the chapters dealing with the tuberculous lesions of bones and joints, which are very profusely illustrated with photographs and *x*-ray pictures.

Osteology and Syndesmology. By Howard A. Sutton, M.D., Assistant in the Department of Anatomy of the University of Pennsylvania, and Cecil K. Drinker, B.S. Cloth. Price, $1.50 net. Pp. 225. Philadelphia: P. Blakiston's Son & Co., 1910.

This is a quiz-compend of about 200 pages, and probably answers the purpose of such questionable productions. There are no illustrations. Referring to the necessarily laborious task of learning the bones and joints from the regular descriptive works, the authors say, "it is the hope of the authors that in presenting this small volume they remove the need for such tedious labor."

It may well be asked, "When will students ever have more time for studying the bones and doing this 'tedious labor' than when they are students?" Again quoting, "In the preparation of the text the author has consulted Morris,' Piersol's Gray's, Cunningham's and Swan's *anatomies*. . . . " Why deprive the student of the advantage of getting this information at first hand, embellished with the good descriptions and illustrations in the complete works, having the stamp of authority—so far as that goes? Why give him in their stead the bare details devoid of illustrations and the vitality of good descriptions so necessary to the proper comprehension of his subject?

A Text-Book of Mental Diseases. By Eugenio Tanzi, Professor of Psychiatry in the Royal Institute of Higher Studies of Florence. Authorized Translation from the Italian by W. Ford Robertson, M.D., C.M., Pathologist to the Scottish Asylums, Edinburgh, and T. C. MacKenzie, M.D., F.R.C.P., Edin., Medical Superintendent, Inverness District Asylum. Cloth. Price, $7. Pp. 803, with 132 illustrations. New York: Rebman Company. 1910.

Tanzi's classification is rather more simple than Kraepelin's. He separates melancholia from mania and circular psychoses, however. He places idiocy among the cerebropathies, thus separating it from imbecility, which he puts among the degenerative mental anomalies. The book includes chapters on the seat of the psychic processes, the causes of mental diseases, anatomic substratum of mental diseases, sensibility, ideation, memory, the sentiments, movements and other external reaction, classification of mental diseases, pellagra, alcoholism, amentia, the thyroid psychoses, progressive paralysis, infantile cerebropathies, adult cerebropathies, the affective psychoses, neurasthenia, hysteria, epilepsy, dementia præcox, sexual perversions, constitutional immoralities, paranoia, imbecility and asylums. The translation is remarkably good.

A Study of Melting-Point Determinations. With Special Reference to the Melting-Point Requirements of the U. S. Pharmacopeia. By George A. Menge. Hygienic Laboratory. Bull. No. 70. P. H. and M.-H. S. of the United States. Paper. Pp. 101, with 20 illustrations. Washington: Government Printing Office, 1910.

In view of the importance of the melting point of a chemical substance, both as a means of identification and control of purity, and because of the widely varying methods of carrying out this determination, the whole subject has been carefully and thoroughly reviewed and discussed in this bulletin. From a survey of the existing methods and the results obtained by these methods, the author has devised an apparatus and technic which is simple and inexpensive, yet accurate. The method was thoroughly tested and found to be satisfactory, as shown by the many results tabulated in the bulletin. Menge recommends the apparatus and method for adoption as the official method for the United States Pharmacopeia.

Insanity in Every-Day Practice. By E. G. Younger, M.D. Brux. Senior Physician, Finsbury Dispensary. Second Edition. Cloth. Price, $1.25. Pp. 124. Chicago: Chicago Medical Book Co., 1910.

This little volume is prepared especially for the general practitioner; and, unlike many books with this ostensible aim, it is actually helpful, as it endeavors to present in a simple and easily assimilated form essential and important facts regarding various types of insanity and their legal aspects. Noticeable and commendable are the absence of complicated nomenclature, the concise discussion of the various forms of insanity, and the rational arrangement of the contents. The appendix contains copies of various legal forms. The book can safely be recommended to the general practitioner.

Tobacco and Its Deleterious Effects. A Book for Everybody, Both Users and Non-Users. By Charles E. Slocum, M.D., Member of Local, Ohio State and the American Medical Associations. Cloth. Price, $1. Pp. 70. Toledo: The Slocum Publishing Co., 1909.

This author does not leave any room for doubt as to his opinion of the use of tobacco. While his strong feeling on the subject may be justified, his indiscriminating and unanalytic amassing of testimony and his lack of judicial serenity tend to make the reader discount the statements of supposed facts. Since there is a real need for a scientifically authoritative statement of the injury and waste caused by tobacco, it is to be regretted that this book is not more scientific in its citations and more restrained in its style.

Die Praxis der lokalen Anästhesie. Von Dr. Artur Schlesinger, Berlin. Cloth. Price, 5 marks. Pp. 160, with 22 illustrations. Vienna: Urban & Schwarzenberg, 1910.

The increasing frequency of the use of local, instead of general, anesthesia and the widely scattered state of the literature on this subject make Dr. Schlesinger's little book a welcome addition to our working library. About one-half of the work is devoted to the history, means and methods of use, the remainder to the technic, of local anesthesia as applied to special regions. It is written in such fashion that one having no personal experience may safely follow its guidance, while the specialist will find it replete with information on the methods of to-day.

History of Medicine. By Max Neuburger, Professor of Medical History in the Imperial University of Vienna. Translated by Ernest Playfair, M.B. In Two Volumes. Vol. I. Cloth. Price, $9. Pp. 404. New York: Oxford University Press, 1910.

This volume, which contains a preface by Dr. William Osler, gives the history of medicine from primitive times down through the middle ages. The subject-matter is presented as a more or less continuous narrative, in a style which at once attracts and holds the interest of the reader. As an added advantage, the text of the book has been printed in large type, while in smaller type appear numerous references and details. This will be a valuable addition to the library of any one interested in the history and progress of medicine.

Atlas der rectalen Endoskopie. Nebst einer Einführung in die Technik der rectalen Endoskopie. Von Dr. Arthur Foges, Wien. Second Edition. Price, 14 marks. Paper. Pp. 102, with illustrations. Wien: Urban & Schwarzenberg, 1910.

The second and concluding part of this work fully maintains the high standard of excellence reached in the plates and text of the first part, noticed in The Journal, Feb. 12, 1910, p. 563. The complete work with its practical text and artistic plates is one of great value to the student or specialist in proctology.

Medicolegal

Validity of City Ordinance Regulating Location of Private Hospitals, Especially for the Insane

The Supreme Court of Washington, in Shepard and others vs. City of Seattle (109 Pac. R. 1067), affirms a judgment dismissing an action to restrain the city from enforcing an ordinance regulating the location and maintenance of private hospitals and sanatoriums, brought by the owners and lessees of certain property used for a sanatorium for the treatment of persons suffering from nervous and mental diseases, including insane persons. The ordinance provided that no private hospital or sanatorium should be established or maintained within the city in any building in which any of the sinks or water closets or other drainage were not connected with the public sewers of the city, nor should any private hospital or sanatorium for the treatment of inebriates or persons suffering from insanity or other mental diseases be established or maintained in any buildings situated within 200 feet of any private property the owner of which had not consented in writing to the location and maintenance of such hospital or sanatorium, nor in any building without the written permit from the commissioners of health of the city.

It was contended that a private sanatorium for the care of persons suffering from insanity or other mental diseases is not a public nuisance in and of itself, and cannot be made a public nuisance, if not such in fact, by a mere declaration of a municipal legislature; that this ordinance deprived the plaintiffs of their property without due process of law, and denied to them the equal protection of the law, in violation of the state and federal constitutions. But no question was involved here as to the power of the city, as contradistinguished from the power of the state itself, the court says, for in all matters appertaining to the public health and public safety substantially the entire police power of the state is vested in municipal corporations of the first class, in the state of Washington.

Furthermore, the ordinance applied to different kinds of hospitals and sanatoriums, and prescribed different requirements with which those desiring to establish and maintain such institutions must comply. The provisions of the ordinance were severable, both as to the character of the institution and the requirements to be met or complied with. Some of those requirements might be valid and others invalid, or they might be valid as to one kind of an institution and invalid as to another.

The case of Bessonies vs. City of Indianapolis, 71 Ind. 189, would sustain the provision of the ordinance requiring hospitals to connect with the public sewers of the city—at least such hospitals as harbor persons suffering from infectious or contagious diseases. Whether reasonable as to a hospital of the character here in question, the court need not inquire, for it was convinced that the second requirement of the ordinance was both reasonable and valid.

The ordinance in effect declared that any private hospital or sanatorium for the treatment of inebriates, or persons suffering from insanity or other mental diseases, was a public nuisance, and should be abated as such, unless its location and maintenance were consented to in writing by the owners of private property situated within 200 feet of the hospital buildings. This, in the court's opinion, was a valid and reasonable police regulation. The presence of a private insane asylum, with its barred windows and irresponsible inmates, would annoy, injure and endanger the comfort, safety, and repose of any person of average sensibilities if located within 200 feet of his place of abode. In other words, it is a matter of common knowledge that the presence of such an institution in a residential portion of a city would practically destroy the value of all property within its immediate vicinity for residence purposes. If so, it was proper and competent for the municipal authorities to require the assent of the injured parties to its location and maintenance. Hospitals for the treatment of patients suffering from infectious and contagious diseases have often been adjudged nuisances, when located in the residential parts of cities and towns, and danger from the immediate presence of a hospital of this kind differs in kind rather than in degree.

The third requirement of the ordinance was a written permit from the commissioners of health, but that requirement was apparently for the purpose of showing that the other provisions of the ordinance had been complied with. In any event the requirement was unobjectionable in itself.

The contention that the ordinance was void because it was admitted that it was enacted at the solicitation of persons residing in the vicinity of said premises and solely in their behalf as a local and special regulation, is answered by the court's saying that it was not permitted to inquire into the motives of the city council. If the ordinance was valid on its face, the reasons or arguments that might have moved the city council to act were not pertinent here.

There are many unpleasant and annoying things that must be borne by those living in a state of organized society, in order that others may enjoy their equal rights under the law, but the preservation of the public health and safety is one of the chief objects of local government, and every citizen holds his property subject to a reasonable exercise of the police power of the state. In the court's opinion this ordinance was a reasonable and proper application of the maxim, "So use your own as not to injure another's," and was sustained by the maxim, "The welfare of the people is the supreme law," in which the police power of the state finds its chief support.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

December 31

1 Surgical Methods of Treating Hyperthyroidism. C. H. Mayo, Rochester, Minn.
2 Experiences with Salvarsan. W. S. Gottheil, New York.
3 Mental Disturbances Following Traumatism; Medicolegal Considerations. A. Gordon, Philadelphia.
4 *Long-Continued High Blood-Pressure; Its Results and Prevention. W. H. Sheldon, New York.
5 *Approximate Estimation of Protein Contained in the Cerebrospinal Fluid. D. M. Kaplan, New York.
6 *Mercury Succinamid in Treatment of Tuberculosis. L. S. Peters, Silver City, N. M.

4. **Long-Continued High Blood-Pressure.**—Attention is called by Sheldon to the fact that high blood-pressure is a condition and not a disease. He says that long-continued high blood-pressure produces a condition whereby there is leakage of cardiac energy. The arterial tree in health maintains diastolic pressure in normal relation to systolic. In cases of long-continued high blood-pressure there is failure of diastolic pressure to maintain its normal relation, therefore, there must be lessened elasticity of the arteries. The increased strain on the heart is in accordance with the amount of the

diastolic failure. In a series of thirty patients examined by Sheldon, the average pulse-pressure was 78.5 mm., while a normal arterial tree will give a pulse-pressure of from 20 to 40 mm. Therefore, there was a loss of from 38 to 58 mm. of high pressure. It would seem, he says, that in these cases the high systolic pressure was in the nature of a compensatory act, as in order to maintain a diastolic pressure of 108.7 it was necessary to have a systolic pressure of 187.2. There are signs of poor circulation with high systolic pressure if the diastolic pressure is relatively low. Sheldon is convinced *that if attention were paid to the first indication* of increased pressure and the cause removed, the inevitable bad results noted could be prevented. When the pathologic condition of failure of diastolic pressure has been established, efforts should be directed toward maintaining the compensation of the heart.

5. **Estimation of Protein in the Cerebrospinal Fluid.**—The technic of the test used by Kaplan is: 1. Centrifugalize the fluid and use the supernatant liquid. 2. Into each of five small test tubes introduce from 0.1 c.c. to 0.5 c.c. of clear fluid. The obtained fluid must be blood-free. 3. Heat the first tube (0.1 c.c.) gently and add 2 drops of a 5 per cent. butyric acid solution and heat until it bubbles—but does not spurt. 4. Holding the tube almost horizontally permit 0.5 c.c. of a supersaturated ammonium sulphate solution to float on top of the cerebrospinal fluid. The same is performed with the other tubes. 5. Stand aside, noting the time when the last portion of ammonium sulphate was added to the 0.5 c.c. tube. In case of a protein excess, a distinct ring appears in the middle of the fluid. The ring appears in from 5 to 25 minutes after being set aside, is of a coarse granular appearance (cheesy) of a cream color. The greater the protein content the more apparent the appearance of the ring in the tubes with the smaller amounts of cerebrospinal fluid. The rings that appear later than 25 minutes are not characteristic. Negative fluids at times show a ring, but it takes from thirty minutes to over one hour before its appearance and the rings in this case are not composed of the coarsely granular material which is seen in the case of fluids with a protein excess. Compared with other methods, Kaplan's reaction is said to conform to clinical diagnosis and other laboratory results oftener than the protein reaction of Nonne and Noguchi.

6. **Mercury Succinamid in Tuberculosis.**—Peters' work covers a series of twenty-three patients treated in a closed institution under perfect dietetic and hygienic conditions. An analysis of his work shows the following results: Stationary, six; died, two; failed, nine; improved, four; cured, two. It is interesting to note that of the six patients classed as improved or cured four were syphilitic and two, cases of simple tuberculosis. One syphilitic made rapid gain under mercury but developed in the course of treatment a neuritis which was extremely painful and because of which the injections were abandoned. He went down rapidly from then on and is now a hopeless case. The other syphilitic who failed gained for a time, but from a pulmonary standpoint was hopeless in the beginning. Of the two non-syphilitic individuals one improved and one recovered. Peters, however, is firmly convinced that either would have done the same under any treatment, for both were excellent patients with little pulmonary involvement. Of the nine who failed and the six remaining stationary, only two were syphilitic. Two who died were also free from any syphilitic taint, one dying of bronchopneumonia following hemorrhage and the other was sent home as hopeless and died a few months later.

New York Medical Journal

December 31

7 *Eggs. R. C. Rosenberger, Philadelphia.
8 The Wassermann Reaction and Salvarsan. T. MacRae, New York.
9 Regulation of Prostitution. M. Glasgow, New York.
10 Rest, Exercise and Food in the Management of Tuberculosis. A. P. Francine, Philadelphia.
11 Climate as a Curative Agent. F. G. Byles, Denver.
12 *A New and Successful Use for Old Staphylococcus Bacterin. B. R. LeRoy, Athens, Ohio.
13 Impetigo Contagiosa Transmitted by Machine Oil. O. V. Huffman, Cincinnati,
14 Magic and Medicine: A Study in the Borderland of Scientific Light and Darkness. J. Knott, Dublin.

7. **Eggs.**—Rosenberger says that if the so-called heated or "spot" eggs contain putrefactive bacteria and if kept in a mixture for some time before disposing of them, poisonous products are generated which may cause symptoms of gastroenteritis and simulate very closely cases of meat poisoning. It is sometimes said by patients who are on a diet of raw eggs that they cannot eat them, that they make them sick or cause diarrhea or other symptoms of gastroenteritis. It can easily be explained if the patients have eaten these spot eggs. Take a patient with tuberculosis who is recommended to eat so many raw eggs a day. If he is too sick to wait on himself, someone might make up a milk punch containing spot eggs, and mild or severe gastroenteritis develops. Or in the making of a salad dressing where great heat is not required, the making of corn starch, of various puddings, or even in baking cakes, these spot eggs may have been used *and, perhaps, bring about gastroenteritis in those who eat* thereof. If 0.5 c.c. (8 minims) of an egg mixture offered for sale as fit for food purposes will kill a guinea-pig in eight hours, one wholly unacquainted with bacteria or their products will readily see that a potent poison is contained in the eggs and that they are absolutely unfit for food.

It is Rosenberger's opinion that the most rapid and efficient method of determining strictly fresh eggs is by the candling process, but by an expert. Some eggs that are put on sale as fresh eggs open up apparently fresh, yet when the dish is slightly jarred, the admixture of white and yolk is easily accomplished, which, with a perfectly fresh egg, is only accomplished *after severe beating. The spot eggs do not uniformly* give off an odor, but a mouldy egg does, as well as a black rot or an ordinary rotten egg. Take a fresh egg and shake vigorously for an indefinite time; no admixture of white and yolk is possible in the shell, and everyone knows how impossible it is to mix these two portions in a dish without vigorous *beating. To prevent the selling of spot and rot* eggs, as well as mixtures of these forms of eggs, either frozen or not, the law should compel the dealers to dispose of them immediately to the manufacturing concerns individually and not leave them for some unscrupulous trafficker or peddler who collects these eggs for personal gain, obtaining them *from dealers for almost nothing and disposing of them to* small bakeries at from 18 to 20 cents a pound when fresh eggs are bringing from 36 to 48 cents a dozen. When two grades of eggs are offered for sale at a "dairy" or store, it is almost a foregone conclusion that the cheaper ones contain "spots" or are "heated" eggs.

12. **Staphylococcus Bacterin.**—While *engaged in making* a comparative bacteriologic study of certain parasitic microorganisms found on the bodies of persons suffering from certain forms of insanity, LeRoy had occasion to make and use considerable quantities of the staphylococcus bacterin. A mixed form of the bacterin was made from fresh cultures of the *Staphylococcus pyogenes albus* and the *Staphylococcus pyogenes aureus* in about equal amount. The bacterin was made very strong, and this particular bottleful was made the density of thin cream. The bottle, of 8-ounce capacity, was sealed with paraffin, wrapped in amber-colored paper, and placed in a cool, dark place and forgotten for a space of over two years when it was brought to light and examined. It was found to be separated into two portions, the upper and greater portion was a yellowish serum-colored fluid, the lower portion was of a gelatinous nature and of a deep red color. On agitating the substance it broke up into flakes which became suspended in a homogeneous manner, making a fluid the density of thin cream. Wishing to learn whether it had lost its immunizing power or not, and not caring to inject it into the circulation, LeRoy applied it topically in a case of exaggerated pustular acne, the face, neck, back, breast and arms being covered with the pustules. The diseased surface was painted with a camel-hair brush, frequently shaking the bacterin. At once the skin became intensely red, with considerable sharp stinging pain which lasted for a few minutes; then all was pleasant. The redness subsided within a few hours, and nothing further was noticed. The treatment was given every day, the few unpleasant symptoms becoming less and less until there was practically no reaction whatever following the application of the fluid. The clinical results

were most rapid in action and very pleasing to all concerned. The face cleared up without further pustulation. The comedones dried up and were removed by rubbing the skin briskly with a coarse towel, the comedones rolling out like shot.

In all, twenty-eight patients have been treated in this manner without a failure. This seems remarkable when it is recalled that the bacterin is now over three years old, is sterile, is without odor or signs of change other than what has been mentioned. This substance is being used on a case of rhinophyma with the most gratifying results, the surface of the nose being painted with the solution mentioned in the foregoing article. The solution has been used in cases in which suppuration has been part of the trouble, regardless of the other conditions present, with the same result as mentioned in the cases of acne.

Lancet-Clinic, Cincinnati

December 17

15 *Action of Heart Stimulants. F. C. Askenstedt, Louisville, Ky.
16 The Wassermann Reaction. O. Berghausen, Cincinnati.
17 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

December 24

18 The Former Medical Giants of France. F. Dowling, Cincinnati.
19 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

15. **Action of Heart Stimulants.**—In the nine cases reported by Askenstedt, strychnin was used seven times, nitroglycerin five times and ammonium carbonate once. Strychnin was administered five times to patients of low blood-pressure, once when arterial tension was normal and once when it was high. Except in a doubtful case of anesthesia, strychnin did not in a single instance show any stimulating effect on the circulation. As the tablets used were obtained from various sources, and some had come as samples direct from the manufacturers, the lack of perceptible action of the strychnin cannot be ascribed to bad pharmacy. In all of the five nitroglycerin cases—each of which presented a hypertension—a reduction of the systolic tension from 10 to 25 mm. invariably took place, lasting not less than one or one and one-half hours after the administration of the drug. Any effect of the nitroglycerin as a heart stimulant, however, is devoid of proof in these cases. The reputed power of digitalis to increase arterial tension was not borne out by the two experiments, either where the tension was low or where it was high. Ammonium carbonate proved inert in the case of complete heart-block. While these heart stimulants were given principally for experimentation, most of them were legitimately used on physiologic indications; in other words, they were such remedies as the average physician would have employed for the conditions presented. Only a few patients knew that an experiment was being carried out, so Askenstedt infers that the therapeutic administration of these stimulants in closely similar cases would produce practically the same results.

New Mexico Medical Journal, Las Cruces

November

20 The New Mexico Medical Society. J. W. Elder, Albuquerque.
21 The Needs of the Profession in New Mexico. R. E. McBride, Las Cruces.
22 A Case of Mitral Regurgitation. J. R. Gilbert, Alamogordo.

Southern Medical Journal, Nashville

December

23 *Safeguarding Society from the Unfit. A. B. Cooke, Nashville.
24 *Exophthalmic Goiter. W. D. Haggard, Nashville.
25 Therapeutic Indications for Thyroid Administration. J. M. Tompkins, Richmond, Va.
26 *Pharmacologic and Clinical Aspects of Hexamethylenamin. L. B. Wiggs, Richmond, Va.
27 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
28 Pain in Abdominal Disease. W. M. Harsha, Chicago.

23 and 24. Abstracted in The Journal, Nov. 26, 1910, p. 1919.

26. **Clinical Aspects of Hexamethylenamin.**—It is believed by Wiggs that his experiments show the positive irritant properties of hexamethylenamin. Medium doses of hexamethylenamin continued over comparatively short periods (ten days) will produce renal irritation. Even small doses, if long continued, may produce irritation. In moderate amounts there is an initial increase in the total quantity of urine passed, due to the primary irritation of the kidney structure, but, if the drug is continued for any considerable length of time, there is a diminution in the amount excreted. Toxic symptoms are only noted when there is severe renal irritation. (Animal No. 2 showed a marked tendency to lie about and sleep and altogether looked sluggish and ill, refusing all food while the hematuria was present.) Hexamethylenamin is more effective as an antiseptic if the urine is acid in reaction. It may itself produce in the urine an acid reaction on account of the ammonia radical present, ammonia, as is well known, rendering the urine acid in reaction. The drug —as such—has only mild antiseptic properties and is probably, in part at least, absorbed unchanged.

Wiggs urges that great care must be exercised in administering even small doses of hexamethylenamin, certainly when it is proposed to be used over extended periods. Microscopic examinations of the urine in all patients receiving the drug should be made if possible, or, if this be impracticable, daily examination of the albumin content should be made. After the drug has been adminstered for as long as seven days, bladder and renal irritation may be expected and must be rigidly sought for. When given with care and intelligence this is the most potent genitourinary antiseptic. It is suggested that in patients with alkaline urine some drug be given that will render the urine acid in reaction previous to administration of the hexamethylenamin, which seems to act better in the acid medium.

Western Medical Review, Omaha, Neb.

December

29 Prevention of Venereal Diseases. P. Findley, Omaha.
30 The Work of the Nebraska Orthopedic Hospital. J. P. Lord, Omaha.
31 Induced Pregnancy. G. W. Shidler, York, Neb.

Medical Fortnightly, St. Louis

December 10

32 Material and Methods, the Secret of Success in Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
33 Acute Mania with Unusual Duration of Mental Obliviousness —Recovery. M. R. Hughes, St. Louis.
34 Functional Neuroses, Clinically Reviewed. W. F. Waugh, Chicago.

Illinois Medical Journal, Springfield

December

35 *Acute Epiphysitis of the Hip. J. L. Porter, Chicago.
36 Commitment and Care of the Insane of Cook County. J. P. Houston, Chicago.
37 Our Research Workers. E. B. Coolley, Danville.
38 Therapeutic Nihilism. J. Miles, Merom, Ind.
39 Analytic and Microscopic Study of Pus. L. J. Willien, Terre Haute, Ind.
40 Recognition of Extra-Uterine Pregnancy. A. M. Miller, Danville.
41 Fracture of the Skull. I. L. Firebaugh, Robinson.
42 Surgical Aspects of Hernia. H. N. Rafferty, Robinson.
43 *Aneurysm of the Aorta. C. N. Combs, Terre Haute, Ind.
44 Advantages of Clinical History Writing. B. V. Caffee, Terre Haute, Ind.
45 *Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
46 Diabetes Mellitus. C. F. Newcomb, Champaign.
47 Prevention of Blindness. C. B. Voight, Mattoon.

35. **Acute Epiphysitis of Hip.**—The lesion described by Porter seems to be always confined to the epiphyseal line which looks wider than normal, irregular in outline and somewhat hazy, while the examination of a long series of Roentgen plates of early tuberculosis of the hip shows a wide variation in the location and extent of the tuberculous foci. He says that it seems, therefore, that a better differentiation of these cases from the other recognized forms of acute and chronic infections of the hip must come through a closer study of the clinical findings; they all recover without abscesses or other complications which require invasion of the joint and the opportunities for direct pathologic investigation are lacking. The last five patients who have been under observation, and all of whom have apparently recovered, illustrate the clinical history of this affection. In no case was there a history of trauma. In all cases but one, the onset was so acute that within twenty-four hours the patient could not walk on account of pain. In the oldest patients the onset was less acute and the patient continued to walk but limp and complaint of pain in hip developed very suddenly. In all cases the pain was referred to the groin directly over the joint, and in no case was there pain referred to the knee. In two

cases a slight fulness at the site of the pain in the groin could be seen, suggesting some synovitis but no marked tension. In the other three cases no sign of synovitis could be discovered. In none of the cases during all the course of treatment was there any marked thickening or induration of the peri-articular tissues. All the cases showed marked limitation of motion at the hip, muscular spasm and pain on motion during the earlier stage of the attack. In all the cases the acute symptoms subsided rapidly under rest in bed, though the limitation of motion and some spasmodic contraction persisted for a longer time.

In three patients temperatures were taken at intervals from the start but was found elevated in but two, rising from 1 degree to 1.5 degrees during the first ten days. In the other two patients no temperature was taken until after the acute stage had subsided, when it was found absent. One very noticeable point in all the cases was the very slight degree of atrophy which developed during the entire course of the disease and which might easily be due to the immobilization. In one case von Pirquet's tuberculin test was used and a positive reaction resulted, but strange to say, that patient recovered more quickly than any of the others under continued immobilization and crutches. In one case, after apparent recovery, a marked talipes cavus with slight equinus developed in the foot of the affected leg and has progressed in spite of treatment, though no definite paralysis can be made out and the hip remains perfectly well. In none of these cases was there any history of preceding infection such as typhoid, measles, scarlatina, or diphtheria, which might account for the acute arthritis. The time required for recovery has varied from ten weeks to ten months.

43. **Aneurysm of the Aorta.**—This case of aortic aneurysm is reported by Combs because aneurysm of the inferior portion of the arch and the descending thoracic aorta is a rare variety. Death by rupture into the esophagus adds to its unusual features. The tumor pressure on the left recurrent laryngeal nerve caused voice alteration and a brassy cough. In the early stages, on change of position, the pressure was relieved, the patient's voice returned and thus it was that she was thought hysterical. Pressure on the esophagus caused dysphagia. Pressure on the bronchus caused dyspnea. A weak left radial pulse was due to the oblique course of the left subclavian through the thickened aortic wall and the expansion following the ventricular systole partially closed its lumen. Pain was due to erosion of the vertebræ and also to tumor-pressure in general. Had death been delayed the erosion would soon have reached the spinal cord and produced the final symptom of paraplegia. In this case, the diagnosis was especially difficult because on inspection no tumor was in evidence. That rupture of the sac into the esophagus caused the immediate death cannot be denied in view of the large irregular opening.

45. Abstracted in The Journal, June 4, 1910, p. 1893.

Journal of the Oklahoma State Medical Association, Muskogee

December

48 The General Practitioner. C. W. Fisk, Kingfisher.
49 Cerebral Meningitis. F. B. Erwin, Norman.
50 Appendicitis. W. T. Tilly, Muskogee.
51 Intestinal Obstruction. J. C. Watkins, Hallett.
52 *Management of Fractures of the Extremities.* J. A. Foltz, Fort Smith, Ark.
53 The County Medical Society. D. Armstrong, Mead.

American Journal of Orthopedic Surgery, Philadelphia

November

54 *Treatment of Structural Scoliosis. W. Truslow, Brooklyn, N. Y.
55 *Apparatus for Treatment of Scoliosis at Night. F. Lange, Munich, Germany.
56 *Scoliosis Relieved by Operation on the Transverse Process of One of the Vertebræ. Z. B. Adams, Boston.
57 *Pott's Paraplegia. C. F. Painter and G. C. Moore, Boston.
58 *Advantages of Braces over Plaster Jackets in Pott's Disease. H. O. Feiss, Cleveland.
59 *Support for the Spondylitic Spine by Buried Steel Bars, Attached to the Vertebræ. F. Lange, Munich, Germany.
60 Relation Between Clinical Evidence and Pathologic Conditions in Spinal Caries. E. G. Brackett, Boston.
61 Physiotherapy in Sacro-Iliac Conditions. F. E. Peckham, Providence, R. I.
62 Fracture Dislocation of the Shoulder. A. R. Shands, Washington, D. C.
63 *Congenital Absence of the Tibia. T. H. Meyers, New York.
64 *Bone Clamps of Aluminum Wire. L. A. O. Goddu, Boston.
65 A Portable Apparatus for Applying Jackets in Hyperextension. L. T. Brown, Boston.
66 A Splint for Postoperative Hallux Valgus. C. F. Painter, Boston.

54 and 55. Abstracted in The Journal, July 2, 1910, p. 47.

56. **Scoliosis Relieved by Operation.**—In this case the operation consisted of excision of the lateral process of the fifth lumbar vertebra for abnormal development with scoliosis. The patient suffered considerable discomfort following the operation and complained of the right leg being "dead and immovable." Examination showed knee-jerks active and equal on both sides. There was no apparent sensory disturbance; nor was there swelling or discoloration of that extremity. The general condition was good. The patient suffered slight pain in the wound, but had an uneventful recovery. A few days after operation a plaster jacket was applied. When first allowed to walk the patient shuffled the right foot and complained of hyperesthesia of the dorsum of the foot. Her recovery was eventually a very satisfactory one.

57, 58 and 59. Abstracted in The Journal, June 11, 1910,, p. 1995.

63. **Congenital Absence of the Tibia.**—Myers operated on this patient in 1905 for congenital absence of the tibia. He transplanted the head of the fibula, and did an arthrodesis at the ankle joint. The result is excellent. The shortening, measured from the anterior superior spine to the ball of the foot where the weight is borne, is now 2 inches, of which three-fourths is in the femur. The shortening was originally 1¾ inches. The right (affected) calf is ¾ inch smaller than the left. The foot is fixed at 135 degrees. There is no hyperextension and no rotation possible at the knee. The boy can extend his leg to 165 degrees strongly and flex it to 90 degrees. The ankylosis at the ankle is firm.

64. **Bone Clamps of Aluminum Wire.**—This clamp is made of aluminum wire, gauge 16 or more, according to the strength required, of any desired length, and with one or more loops at each end, through which screws of deep thread are inserted and thus the clamp is fastened to the bone. The advantages of the use of this clamp over that of the ordinary bone plate or the silver wire, according to Goddu, are as follows: It has been shown that of all materials aluminum produces the least irritation to the tissues; the wire being round, the line of contact with the periosteum is necessarily very slight; even at the time of operation this clamp may readily be bent and made to conform with any deviations of the bones and still maintain its tensile strength; lastly, it can be so applied as to have no contact with the seat of disease. If it becomes necessary to remove the clamp, a small incision may be made in the skin over the site of one end of the clamp, the screws removed and the loops cut off and taken out; a similar incision may be made at the other end and after removing the screw the remaining portion of the clamp can be withdrawn. It has been shown in three incisions of the knee that the patients have experienced decidedly less pain with fixation by bone clamps or plates. The most striking feature in the use of these aluminum clamps is the almost entire absence of pain after operation.

Southern California Practitioner, Los Angeles

December

67 Strabismus in Infancy. F. Baker, San Diego, Cal.
68 Stone in the Bladder and Urethra in Children. L. B. Morton, Pasadena.
69 Cholelithiasis Simulating Appendicitis—Dislocation of Liver. R. Brown, Santa Barbara.
70 Liver Abscess. W. J. Barlow, Los Angeles.
71 Mental Defects Following the Use of Alcohol. J. T. Fisher, Los Angeles.
72 Present Status of Abdominal Drainage. C. P. Thomas, Los Angeles.
73 Mummified Fetus. R. L. Alexander, Tempe, Ariz.
74 Influence of Mixed Blood on the Susceptibility to Infection in the American Indian. R. E. Thomas, Phoenix, Ariz.

Military Surgeon, Washington, D. C.

December

75 The Status of the Medical Corps of the National Guard, in Relation to the Army, the Navy and the Public Health and Marine-Hospital Service. J. K. Weaver, Norristown, Pa.
76 *Tincture of Iodin in the Surgery of War. N. Antelo, Buenos Aires, Argentine Republic.

77 *Treatment of Lobar Pneumonia. E. Jurado y Gama, San Luis Potosi, Mexico.
78 Treatment of Hemiplegia Resulting from Apoplexy. K. S. Yau, China.
79 New Instrument Case of the French Army. Ruotte.
80 *Prophylaxis of Venereal Diseases in the United States Army. L. M. Maus, U. S. Army.
81 *What Can the Navy Do with Its Tuberculosis? C. T. Hibbett, U. S. Navy.

76, 77, 80 and 81. Abstracted in THE JOURNAL, Dec. 24, 1910, pp. 2257 and 2258.

Ophthalmic Record, Chicago

December

82 Ophthalmic Hospitals in Egypt. A. F. MacCallan, Egypt.
83 Two Cases of Interstitial Keratitis and One of Optic Neuritis Treated by Salvarsan. R. Denig, New York.
84 Attachment of the Tendon After Advancement. D. W. Wells, Boston.
85 Parinaud's Conjunctivitis. G. H. Mathewson, Montreal.
86 *Extraction of Cataract in Its Capsule. V. H. Hulen, Houston, Texas.

86. **Extraction of Cataract in Its Capsule.**—Fixing the lens by a small vacuum cup, and gently lifting out of the eye the cataract while yet contained in its capsule, are the essential features of Hulen's operation, one which he has employed successfully in six cases. The operation is done as follows: The preliminary preparations are the same as for an ordinary cataract extraction except the use of atropin in the eye an hour previously. The speculum is introduced and the section made in the limbus includes one-half of its circumference; raising a conjunctival flap above, a small iridectomy is done and the edges of the coloboma replaced. The speculum is now removed and a drop of cocain instilled. Should blood in the anterior chamber exclude the pupil it is removed by a gentle stream of warm saline solution. Next the assistant holds the upper lid with a retractor, controlling the lower lid with the other hand; under no circumstances must he now allow pressure on the globe until the eye is finally closed. The extractor is introduced through the section from the convenient side and gently let down on the lens, making sure the cup is everywhere free of the pupillary margin so that the iris may not be pinched subsequently. The extractor being held in the operator's right hand, the left is free for use as required. The patient should look straight ahead, never down. With the cup resting over the center of the anterior capsule the nurse turns the cock at the gage, the vacuum thus connected will cause the cup to grasp the cataract more rigidly. The extractor is then somewhat elevated and rotated to sever the suspensory ligament; now with the upper edge of the cup slightly raised the cataract in its capsule is slowly and gently lifted out, passing easily through the pupil and section. The edges of the coloboma are replaced and the subsequent management of the case is not different from the usual method.

Virginia Medical Semi-Monthly, Richmond

December 23

87 Ophthalmia Neonatorum. A Plea for Legislative Enactments for Its Prevention. J. A. White, Richmond.
88 Vagaries of Disease in Infancy and Childhood. E. P. Copeland, Washington, D. C.
89 Value of Sanatorium Treatment in Pulmonary Tuberculosis. W. D. Tewksbury, Catawba, Va.
90 Differential Diagnosis of Alcoholic Coma from Other Forms of Coma. L. D. Mason, Brooklyn, N. Y.
91 Syphilis Treated by Salvarsan. M. C. Sycle, Richmond.

Vermont Medical Monthly, Burlington

December

92 Medicine of To-Day and of Thirty Years Ago. J. C. Rutherford, Providence, R. I.
93 Extra-Uterine Pregnancy. E. H. Ross, St. Johnsbury.
94 [illegible] W. Crane, Hardwick.
95 [illegible] Abdomen and Their Differential Diag- [illegible] Randolph.

Archives of Internal Medicine, Chicago

December

96 *Estimation of Chlorids in the Stomach Contents from Normal and from Atrophic Infants. A. H. Wentworth, Boston.
97 Effect of Treatment on the Wassermann Reaction. H. F. Swift, New York.
98 *Normal Percentages of the Different Varieties of Leukocytes in Infants and Children. O. M. Schloss, New York.
99 *Studies of Malaria in Panama: I.—Clinical Studies of Malaria in the White Race. W. V. Brem, Cristobal, Canal Zone.
100 Pernicious Anemia Mistaken for Amebic Ulcerative Colitis. W. W. Herrick, New York.
101 The Duodenal Contents in Man. M. Einhorn and J. Rosenbloom, New York.
102 *Human and Animal Typhoid Agglutinins. R. S. Austin and C. Frothingham, Jr., Boston.
103 Cutaneous and Conjunctival Tuberculin Tests in the Diagnosis of Pulmonary Tuberculosis. L. Hamman and S. Wolman, Baltimore.
104 Histologic Study of the Sweat Glands in Cases of Chronic Nephritis. H. U. Williams, Buffalo, N. Y.
105 *The Lenticular Zone and Anarthria. A. Gordon, Philadelphia.
106 *A Quick Macroscopic Typhoid Agglutination Test. C. C. Bass and J. A. Watkins, New Orleans.

96. **Chlorids in Stomach Contents of Infants.**—The observations recorded in Wentworth's paper are a continuation of work briefly alluded to in a previous article. The purpose of this work is to discover whether or not the hydrochloric acid of the gastric juice is diminished in cases of infantile atrophy. In the first series of observations, the stomach contents were obtained one hour after eating from a limited number of atrophic infants fed on mixtures of cow's milk. The determinations were made by Sjöquist's method. The results showed a diminished amount of hydrochloric acid in the stomach contents in every case. The same series of observations included determinations of hydrochloric acid in the stomach contents from a limited number of well-nourished and apparently healthy infants fed on mixtures of cow's milk. The results in these cases were variable. In four cases the amount of hydrochloric acid was much greater than in the cases of atrophy. In three cases the amount of hydrochloric acid approximated that of the atrophic infants.

As these results were not conclusive, a second series of observations were made with a view to controlling the first series. The same method of analysis was employed. Unfiltered stomach contents were used in every case. The diagnosis of infantile atrophy was made from clinical evidence alone. Most of the cases were under observation for several weeks. The Sjöquist method rarely showed more than a trace of hydrochloric acid in the stomach contents from atrophic infants fed on cow's milk mixtures. Out of twenty one determinations made of hydrochloric acid in the stomach contents obtained from eight infants, ten showed a *percentage* of hydrochloric acid between 0.01 and 0.05, and eleven showed a percentage of *hydrochloric acid* between 0.002 and 0.009. The stomach contents from nine well-nourished infants showed a diminished amount of hydrochloric acid. The diminution of hydrochloric acid corresponded closely to that found in about one-half of the determinations made on the abovementioned atrophic infants. Out of twelve determinations of hydrochloric acid in the stomach contents obtained from nine infants, one showed 0.12 per cent., one showed 0.09 per cent., nine showed percentages between 0.01 and 0.05, and one showed 0.005 per cent. hydrochloric acid. Thus the diminution of hydrochloric acid, although it was marked, was never so extreme as in one-half of the determinations obtained from atrophic infants. Examinations of the stomach contents obtained from the same atrophic infants at different periods of time after eating, and without any change in the diet, rarely showed any marked variations in the quantity of hydrochloric acid present.

Wentworth does not believe that the results of these observations prove that a marked diminution of hydrochloric acid in the gastric juice is an essential factor in the production of infantile atrophy, although they do show that this diminution is constant. On the other hand, considerable evidence is afforded by several of the observations that it is possible for atrophic infants to gain rapidly in weight and yet produce little hydrochloric acid in the gastric juice. This appears to show that the quantity of hydrochloric acid in the gastric juice is not an important factor in recovery from infantile atrophy.

98. **Normal Percentages of Leukocytes in Children.**—A series of differential blood-counts were made by Schloss on eighty apparently normal infants and in children between 3 and 12 years of age. The investigation was undertaken primarily to determine, if possible, the normal percentages of the cells with eosinophilic granules. Most of the children were from the poorer classes, but all cases of manifest illness were excluded. Cases were also excluded in which there was a

history of any disease recognized as a cause of eosinophilia. The following precautions were taken in the attempt to eliminate helminthiasis: The counts on children between 1 and 12 years of age were made only in instances in which the history and a previous examination of the feces was negative. In infants under 1 year of age, the feces were examined in cases showing more than 5 per cent. of eosinophil cells. The eosinophil cells were over 6 per cent. in seven of fifteen infants under 2 months of age; the highest percentage was 9.7. In two additional cases the percentage was greater than 5; in one, 5.2 per cent; in another, 5.3 per cent. The highest percentages were found in infants between 2 days and 2 weeks of age. In none of the fifty-five infants and children between 2 months and 12 years of age was the percentage of the eosinophil cells above 6. In two cases the eosinophil cells were 6 per cent. In all other cases the percentage was less than 5. In apparently normal infants from 3 days to 2 months of age, the eosinophil cells were frequently above the percentages normal for adults. In normal individuals between 2 months and 12 years of age, when the known causes of eosinophilia were excluded, the eosinophil cells were rarely above 5 per cent. and never greater than 6 per cent., and were present in approximately the same relative proportion as in adults. It therefore only seems fair to conclude, says Schloss, that there is no physiologic eosinophilia in childhood; that 5 per cent. of eosinophil cells may be considered as the upper limit of normal, and certainly, more than 6 per cent. as pathologic.

99. **Malaria in Panama.**—In the "white fever wards" of Ancon Hospital, during 1905 and 1906, 1,107 of 1,300 patients were malarial, a morbidity of 85 per cent. The malarial mortality was 0.54 per cent.; the mortality from other diseases, 4.6 per cent., or about nine times that of malaria. Malarial parasites were found in the peripheral blood of 705 patients, or 63.7 per cent. of the malarial cases. The estivo-autumnal parasite alone was diagnosed 447 times, or in 63.4 per cent. of the positive cases; the tertian alone, 232 times, or in 32.9 per cent.; mixed infections with estivo-autumnal and tertian organisms were found in 26 cases, 3.7 per cent. No quartan organisms were found in this series. The estivo-autumnal percentage is probably slightly too small, and the tertian too large. Three systems of quinin administration were tested: (1) 30 grains daily, 3 doses of 10 grains each, at 6, 8 and 10 a. m.; (2) from 30 to 40 grains daily, given in 5-grain doses every 4 hours, with 2 extra doses of 5 grains each given in obstinate cases before the approximate time for the onset of paroxysms, at 10 a. m. and 2 p. m.; (3) 20 grains daily, 2 doses of 10 grains each, at 6 and 8 p. m. The febrile period was approximately equal under Systems 1 and 2; it was much longer under System 3. All things considered, System 1 seemed to be preferable for the treatment of ordinary infections in male adults.

Several points are emphasized by Brem. The great majority of malarial paroxysms, both estivo-autumnal and tertian, occurred between the hours of 8 a. m. and 8 p. m. Acquired partial immunity or tolerance for the malarial poison is marked after the first infection. The febrile period and the severity of the symptoms decrease markedly after the first attack, remain approximately stationary in the second, third and fourth attacks and then undergo another marked decrease. For the quinin diagnosis test, the drug should be given in the doses of Systems 1 and 2 to male adults. In other cases the quantities may be regulated by the weight of the patient. In first attacks of malaria, the fever of two out of three estivo-autumnal infections will reach and remain normal within three days. If a marked remission and a much-decreased fastigium do not occur on the fourth day, the fever is not malarial and quinin may be discontinued. If a remittent or intermittent fever continues unabated for more than four days, it is not of malarial origin. First attacks may show mild or rudimenary paroxysms of fever for six, seven or eight days. In secondary attacks of malaria, fever usually ceases within three days, and a remittent or intermittent fever that persists unabated for three days is not malarial. Four days is the maximum time to persist in the test. All tertian infections are controlled within three days. Great care must be used to insure the absorption of quinin, and the patient must be kept at rest in bed. Chronic malaria and malarial cachexia are much-abused terms; they describe a condition and not a disease, and should be used only in elaboration of a diagnosis of malarial fever, for which proper cause should be shown. If parasites are not demonstrable and if careful examinations appear to exclude other diseases, the quinin test may be used in malarious regions. If an anemic (cachectic) condition is due to malaria, a partial immunity or tolerance has been acquired, and quinin causes a rapid cessation of fever and other symptoms. If these do not disappear within three days, or if the anemic condition does not improve rapidly, malaria is not the origin of the trouble, and another diagnosis must be sought. In using the test, the patient must be kept at rest in bed, and the absorption of quinin must be assured.

102. **Human and Animal Agglutinins.**—The points brought out by Austin and Frothingham are: The agglutinating power of the serum in typhoid usually reaches its height in about the third or fourth week. Occasionally at this time a positive reaction will be obtained at a dilution of 1 to 600 or 1 to 800; as a rule, only at a dilution of about 1 to 250. In rabbits, agglutinins can be developed by injecting typhoid bacilli intraperitoneally. These experimentally produced agglutinins apparently can be increased in strength as long as the bacilli are injected. The serum from these rabbits when injected into other rabbits causes a transitory agglutinating power to appear in them. This power appears the first hour after injection, gradually increases in strength until the third hour, then subsides and has disappeared about the seventh hour. These time-relations are practically the same, whether the serum is given subcutaneously or intravenously. The height of the agglutinating power is greater after intravenous than after subcutaneous injection. The agglutinating power in the injected animals is apparently simply a dilution of the agglutinating power injected. Even repeated injections of serum fail to stimulate a rabbit to form agglutinins. If comparison may be drawn from animal experimentation it should be possible in typhoid to administer serum in doses of practical size so as to produce more agglutinating power than ordinarily occurs in the course of the disease. In order to keep up this agglutinating power the serum should be given every few hours. The serum should preferably be given intravenously.

105. **Lenticular Zone and Anarthria.**—A case is reported by Gordon which he believes demonstrates clearly that, while certain features of Marie's revised view on aphasia are not at all in conformity with pathologic findings, there are nevertheless some phases which can be explained, if not totally, at least to a large degree, on the basis of his so-called lenticular zone. The anatomic and clinical conditions of the case are particularly conspicuous with regard to the most important point of Marie's contention, namely, the question of anarthria. The patient presented at the time of his admission to the hospital and for two subsequent months, complete right hemiplegia, alexia and verbal amnesia. The latter two phenomena were not complete. Particularly important was the total absence of motor aphasia and dysarthria. For two months the patient's condition remained unaltered. One morning he was found unconscious and agitated with convulsive movements in his right arm and leg and frothing at the mouth. The attack lasted a minute, but for two subsequent hours the arm and leg remained in a state of extreme rigidity. Moreover, the least touch of the leg or arm would produce a convulsive movement. From the moment he lost consciousness, and during the following twenty-four hours of his life, he presented a conjugate deviation of the head and eyes to the right. An attempt to turn his head to the left would not correct the direction of the eyes. During the first few hours he could not voluntarily turn the head to the left, but in the last few hours he was able to make attempts to do it, but only attempts, as he was unable to hold it in the right direction longer than for a fraction of a minute. The same can be said about the eyes. In addition to this phenomenon, the patient was unable to protrude his tongue, move his lips or utter a word. Soon he presented difficulty of swallowing and on the twenty-fifth hour he expired.

The brain and cord were removed. Destruction of the lenticular and caudate nuclei was complete, and yet the patient did not present the least indication of dysarthria. His speech, so far as the articulation was concerned, was clear and distinct. He did, however, present a partial word-blindness and partial verbal amnesia, all symptoms of sensory aphasia. The few symptoms of sensory aphasia observed in this case correspond in reality to Marie's contention, but are at variance with the old conception concerning Wernicke's zone. The angular gyrus, the supramarginal gyrus, the posterior portions of the first two temporal convolutions, the insula and the frontal convolution, were found intact, macroscopically and microscopically. In support of Marie's conception of sensory aphasia Gordon mentions also the condition of the inferior longitudinal bundle, which was partly destroyed. The conclusion to which this observation leads Gordon is that the so-called lenticular zone of Marie may play a certain but not considerable rôle in sensory aphasia. As to its being a center of anarthria, the present case proves that its destruction does not interfere with phonation and articulation of spoken words. Consequently, if Marie's conception of aphasia may be applicable to a certain series of cases, as he has shown, it does not hold its ground in every case in which the sensory or motor speech may become involved.

106. **Quick Macroscopic Typhoid Agglutination Test.**—The method proposed by Bass and Watkins for making the typhoid agglutination test requires an ordinary microscope slide, or other piece of glass, a surgical needle or other puncture needle, and an ordinary medicine dropper. The material required is 1 drop of a suspension typhoid bacilli. The time required to make the test is less than two minutes. No special bacteriologic or laboratory experience is necessary; and the test, when properly performed by one with even limited experience, is as reliable and accurate as can be made by an expert bacteriologist within an hour with a microscope and the facilities of a laboratory. The test may be made at the bedside in two minutes. The material consists of a suspension of 10,000 million dead typhoid bacilli per cubic centimeter in 1.7 per cent. sodium chlorid solution to which 1 per cent. of liquor formaldehydi is added. The blood is diluted by dissolving it in approximately four times its volume of water. One or 2 drops of this diluted blood are mixed on a microscope slide or other piece of glass, with an equal quantity of test fluid. The slide is tilted from side to side or end to end in order to keep the mixture flowing back and forth. If the reaction is positive, a grayish, mealy sediment appears within one minute; usually in less than that time. This consists of agglutinated bacilli and is easily seen with the unaided eye. It appears in the fluid around the edges first and tends to collect there. If the agitation is continued the clumps increase in size for two or three minutes. With blood that gives a weak reaction the appearance of the sediment is not so rapid as with stronger reacting blood. It is useless, however, to continue the test longer than two minutes, for if the reaction has not occurred in two minutes it will not occur at all. When the reaction is negative, no agglutination occurs, and the mixture remains as clear and unchanged as when placed on the slide.

Therapeutic Gazette, Detroit

December

107 Prospect of Salvarsan Coming into General Use. S. L. Olsho, Philadelphia.

108 Ocular Affections in Cardiovascular Disease. S. D. Risley, Philadelphia.

109 Partial Detachment of a Normally Situated Placenta—Concealed Intra-Uterine Accidental Hemorrhage. W. H. Wells, Philadelphia.

110 Infectious Arthritis. J. W. Torbett, Marlin, Texas.

Chicago Medical Recorder

December

111 Echinococcus Cyst of the Liver. L. A. Greensfelder, Chicago.

112 Use of the Medical Library. B. Holmes, Chicago.

113 Salvarsan. E. H. Mensing, Chicago.

114 Foreign Bodies in the Ear. J. C. Warbrick, Chicago.

Detroit Medical Journal

December

115 Dysmenorrhea. E. T. Abrams, Dollar Bay, Mich.

116 Salvarsan in Syphilis. H. R. Varney and R. C. Jamieson, Detroit.

Journal of Abdominal Psychology, Boston

December-January

117 Action of Suggestion in Psychotherapy. E. Jones, Toronto.

118 *Mental Mechanisms in Dementia Præcox. A. Hoch, New York.

119 *Nature and Conception of Dementia Præcox. A. Meyer, Baltimore.

118 and 119. Abstracted in THE JOURNAL, July 16, 1910, p. 248.

Albany Medical Annals

December

120 The Portals of Entry in Tuberculosis. H. Chiari, Strassburg.

121 Problem of the Acute Mental Case. J. M. Mosher, Albany.

122 Anesthesia in Normal Labor. P. T. Harper, New York.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December

123 *Catalytic Activity of the Blood in the Toxemias of Pregnancy. M. C. Winternitz and F. C. Ainley, Baltimore.

124 Acute Pancreatitis. J. W. Poucher, Poughkeepsie, N. Y.

125 *Cesarean Section by the Small Median Incision Above the Umbilicus. A. B. Davis, New York.

126 Adenocarcinoma of the Kidney. J. G. Sherrill, Louisville, Ky.

127 *Breast of the Expectant Mother: Its Care Before and During the Period of Lactation. F. Reder, St. Louis.

128 Progress of the Year in Gynecology. S. M. Brickner, New York.

129 Progress of the Year in Obstetrics. G. L. Brodhead, New York.

130 *Acute Hemorrhagic Pancreatitis. J. W. Keefe, Providence, R. I.

131 *Conservatism in Operations on the Uterine Appendages. L. C. Morris, Birmingham, Ala.

132 Pathology of Gynecology and Obstetrics. R. T. Frank, New York

133 Clinical Aspect of Recent Researches in the Chemical Physiology of Infants. J. Zahorsky, St. Louis.

134 Results of Infant Feeding with Milk from City-Kept Cows. E. V. Davis, Chicago.

135 Method of Feeding of More Importance than Choice of Food in Substitute Feeding of Infants. C. Douglas, Detroit.

136 Nasal Diphtheria in Infants. G. D. Scott, New York.

123. **Catalytic Activity of the Blood.**—In the hope of being able to demonstrate the presence or absence of renal insufficiency in the various types of toxemia of pregnancy, Winternitz and Ainley have determined the catalytic activity of the blood in a number of such cases. They employed a modification of the method described in detail by Kastle and Loevenhardt. Ten clinically normal patients were studied, in each of whom several readings were made at varying intervals before, during and after labor, but in no instance did the readings show any appreciable variation from those noted in normal non-pregnant individuals. Such findings suffice to show that neither pregnancy, labor nor the puerperium produce any appreciable change in the power of the blood to split hydrogen peroxid, which always falls within the limits of physiologic variation. The test was then applied in ten cases of toxemia of pregnancy. In seven the catalytic activity of the blood showed no changes, while in three it was found to be definitely decreased. The results obtained from a study of the catalytic activity of the blood during life and of the tissue extracts, as well as the autopsy findings, are all in agreement. That is to say, there being no renal insufficiency, there was no decrease in the catalytic activity of either the blood or the tissue extracts, which is in marked contrast to the results obtained in the cases of chronic nephritis and uremia, uncomplicated by pregnancy, which have been previously reported. In them, accompanying the renal insufficiency, the authors were able to demonstrate a corresponding decline both in the activity of the blood and of the tissue extracts. In two fatal cases it was positively demonstrated that the patients died of eclampsia; the eclampsia was independent of renal insufficiency; the absence of renal insufficiency, shown before death, by the normal catalytic activity of the blood, was substantiated by autopsy findings. The authors conclude, therefore, that the determination of the catalytic activity of the blood appears to offer a means of differentiating the toxemias of pregnancy into two groups. In certain instances the catalytic activity shows no departure from normal these include cases of eclampsia and other toxemias without marked renal involvement. In certain other cases the catalytic activity of the blood is decreased; these include patients suffering from chronic nephritis in whom the increased work thrown on the kidneys by the pregnancy brings about renal insufficiency, as well as cases of true eclampsia and other toxemias with marked renal involvement.

125, 130 and 131.—Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1402 and 1403.

127. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1313.

Denver Medical Times and Utah Medical Journal, Denver

December

137 Some Problems Before the Medical Profession: W. N. Beggs, Denver.
138 Edema of the Glottis. F. E. Waxham, Denver.
139 Mucous Colitis: Etiology and Treatment. H. Heath, Denver.
140 Whooping-Cough. R. J. Smith, Logan, Utah.
141 Medical Education and Legislation. D. C. Budge, Logan, Utah.
142 The Physicians in Ancient Rome. L. Hoefeli.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 10

1 Surgical Versus the Expectant Treatment of Intracranial Tumor. Sir V. Horsley.
2 *Cancer. A. P. Gould.
3 *Results of Bronchial Obstruction. G. N. Pitt.

December 17

4 Plea for Graduation in Laryngo-Otology on a Broad Basis. P. W. Williams.
5 Treatment of Gastric and Duodenal Ulcer. E. C. Hort.
6 Unusual Case of Toxic Dermatitis. C. Pernet.
7 *Variation Among Bacteria. W. J. Wilson.
8 Therapeutic Advantages of Using Mercury in the Colloid Form. G. A. Stephens.
9 Etiology of Iritis. W. M. Beaumont.
10 *Normal Orthograde Posture. R. H. Scanes-Spicer.

2. Also published in the *Lancet*, Dec. 10, 1910. See abstract No. 11.

3. Also published in the *Lancet*, Dec. 10, 1910.

7. **Variation Among Bacteria.**—Wilson isolated a bacillus from the urine of a patient, which is interesting from the fact that it possesses characters intermediate between those possessed by the *B. typhosus* and the *B. coli communis.* The patient was probably an "effective" typhoid bacillus-carrier. Four years ago an epidemic of typhoid occurred in a fashionable district of Belfast, and the cases were centered around a certain milk supply. On investigation, it was found that one of the milkers had recently suffered from "influenza," complicated with jaundice, and her blood gave a well-marked positive Widal reaction in a 1 to 50 dilution. When the supply of milk from this dairy was stopped, the epidemic came to an end. There were thirty cases reported, several of which terminated fatally. This woman developed Bright's disease from which she died. Wilson obtained a specimen of the urine a week before she died, and it was from it that he isolated a bacillus which formed acid but no gas in glucose media, and which fermented lactose at 22 C. but not at 37 C. In not developing gas in glucose media but forming some from mannite it resembled certain colon bacilli of the "anaerogenes" class previously described by Wilson, and which form connecting links between the *B. coli* and the *B. typhosus* group of microorganisms.

10. **The Normal Orthograde Posture.**—The normal orthograde posture is defined by Scanes-Spicer as that in which the center of gravity of the head is vertically over the center of the base of support. The vertical plumb-line joining these points bisects the median transverse occipito condyloid axis, and also the intercotyloid axis, passing through also the center of gravity of the mass made up of the trunk and upper limbs. The center of gravity of the head, that of the trunk, and the center of the base of support, are actively distanced as much as possible from each other by fullest possible extension of the vertical axis in which the above points lie with each in-breath until the extension becomes automatic and unconscious. This posture, Scanes-Spicer says, should be the basis of all physical education for the young. It is the ideal we should seek for every child, the one we should endeavor to get stereotyped by growth in form and structure, the one to which such child should automatically return after action or relaxation. The subject trained thus has an easy and graceful carriage, a straight back, well-poised head, a raised, expanded and mobile thorax well distanced from the pelvis, a flat abdomen, and all the internal organs in constant correct position for best work. The postures permitted and taught by some physical culturists with retracted head, stiff neck, protruded abdomen, hollowed back, and bent knees, do not comply with this definition, and are absolute caricatures of the normal erect posture, and directly produce deformity and disease. Moreover, the normal erect posture is the fundamental essential for all efficient respiration, correct voice production and speaking. Lastly, the influence of the normal erect posture in the prevention and treatment of disease is of a potency as yet but barely suspected.

Lancet, London

December 10

11 *Cancer. A. P. Gould.
12 Results of Bronchial Obstruction. G. N. Pitt.
13 Theory and Practice of the Treatment of Syphilis with Salvarsan ("606"). J. McIntosh and P. Fildes.
14 *A Pedigree Showing Biparental Inheritance of Webbed Toes. H. P. Newsholme.
15 *An Obscure Case of Peritonitis. R. H. Norman.
16 Uterine Cervical Polypus Undergoing Malignant Degeneration. H. Macnaughton-Jones.

December 17

17 The Aftermath of Eyestrain. S. Stephenson.
18 *Specific Diagnosis of Pulmonary Tuberculosis. A. C. Inman.
19 Tuberculous Meningitis. W. B. Warrington.
20 Etiology of Beriberi. H. Fraser and A. T. Stanton.
21 Primary Carcinoma of the Appendix. A. M. Kennedy.

11. **Cancer.**—Gould makes a brief review of the present status of research into the cause and treatment of cancer. discusses earnestly the so-called cancer immunity, which is evidenced in one or more of the following ways: (1) the power of living cells to conform to the law of normal development and to avoid that increased multiplication, defective differentiation, and tendency to intrude themselves into, and grow in, neighboring cell territories, which together connote cancer; (2) opposition to the intrusion of cancer cells into, and their development in, heterologous tissue; (3) inhibition of the growth of cancer or destruction of living cancer cells. Thus the public has been depressed by the oft-repeated statement that one out of every eight women who reach the age of 35 dies from cancer; and of the men who attain 35 years, one of thirteen dies from cancer. This no doubt is true, but why, asks Gould, not express the same facts in terms of immunity, and say that seven out of the eight women and twelve out of thirteen men of 35 years of age will not die from cancer.

Of the second kind of immunity—the opposition to the intrusion of the cancer cells into the heterologous tissue—there is plenty of evidence. There is, first of all, the difficulty in cancer grafting, and then the fate of many of the cancer cells and minute cancer emboli that get into lymphatics and blood capillaries; the majority of them are overwhelmed by the opposing influence of the endothelial cells, and only one here and there is ever able to survive. There is a force of immunity which can protect, against the chief mischievous power of malignancy.

The third form of immunity is what is popularly known as the "cure of cancer"—the disappearance of cancerous growth. Those who are studying the disease in mice report that in these animals it is quite a frequent occurrence for a grafted cancerous growth, after attaining some size, to slowly shrink and disappear, and in some series of experiments a large proportion of the grafts that have "taken" have, after a period of growth, spontaneously vanished. In human pathology, it is a still less frequent fact, but it undoubtedly is observed. It is most frequently seen in the absorption and disappearance of small secondary nodules in the skin and subcutaneous tissue. It is occasionally witnessed on a grander scale. Gould cites nine such cases which occurred in his own practice.

14. **Biparental Inheritance of Webbed Toes.**—It was discovered accidentally by Newsholme, during a routine examination, that the second and third toes of each foot of patient were webbed as far as their terminal phalanges. Further inquiry showed that this deformity occurred through three generations and involved twenty-two members of a family of twenty-nine.

15. **Peritonitis.**—Norman's patient, a man, aged 33, complained of severe continuous pain in the epigastrium, both hypochondria, and the right iliac region. There was no point of special tenderness. He had vomited several times that day, the vomit being gastric only. The abdomen was distended and moved with respiration. Nothing abnormal could be felt. The temperature was 102 F. The bowels were constipated. On the next day he was in much the same condition, the pain being a little less after some small doses of opium. The temperature at 9 p. m. was 104 F. The bowels had been opened by enema, and subsequently two loose, bright yellow motions were passed. The color of these motions suggested typhoid, but no other symptom pointed to that diagnosis. He had been ailing a week or ten days, feeling languid and having a poor appetite, but he kept at his business. A positive Widal reaction was reported. On the third day, the abdomen was much distended, with little or no movement in respiration, general tenderness, but no rigidity. Norman suspected perforative peritonitis, but could not satisfy himself that this was so, the liver dulness being normal. The grave abdominal condition pointed to the immediate need of a celiotomy. This was done but the patient never rallied. A mass of inflamed tissue was found behind the stomach in which were several broken-down caseous glands. There was a cavity in this mass, and from it one sinus led into the stomach. The ulcer in the stomach was not a recent one. Another sinus led to a caseous mesenteric gland, and two others led into the peritoneum. The openings into the peritoneum were apparently recent. There were a number of caseous mesenteric glands, and acute peritonitis was present. The right lung was bound down by old adhesions. There was no evidence of typhoid fever. Fourteen or fifteen years ago tuberculous glands had been removed from the neck.

18. **Pulmonary Tuberculosis.**—Of twenty-six adults examined by Inman, eighteen had tubercle bacilli in the sputum; and of these, sixteen had tubercle bacilli in the feces; in two cases, examination of the feces gave a negative result. Eight of the patients examined had no tubercle bacilli in the sputum, and of these, seven had none in the feces, while in one case tubercle bacilli were found in the feces. Inman believes that these results suggest that the appearance of tubercle bacilli in the stools of early cases of pulmonary tuberculosis, and in the absence of intestinal tuberculosis, results from the swallowing of sputum secreted in an open tuberculous focus in the lungs. Reviewing, as a whole, the positive results of examinations of the opsonic index made with a view to diagnosis, the following four types of variation are defined: A. An index low before, but rising after exercise. B. An index low before and after exercise (insufficient exercise). C. An index high before and falling after exercise. D. An index high before and after exercise.

Taking 250 cases of doubtful pulmonary tuberculosis in which the tuberculo-opsonic index was estimated before and after exercise for diagnostic purposes: The index remained within normal limits in ninety-one cases. The index started low and rose after exercise in fifty-six cases. The index started low and remained low after exercise in forty-one cases. The index started high and fell after exercise in fifty-four cases. The index started high and remained high after exercise in eight cases. So that we have this very striking result: Of 159 cases in which the index varied outside the normal limits, ninety-seven started low, and of these, fifty-six rose as the result of exercise, and forty-one remained low after exercise; sixty-two started high, and of these, fifty-four fell after exercise, and eight remained high. By examining four specimens of blood—the first being taken at rest, the second immediately after exercise, and two more during subsequent rest—it was found that the positive curves conformed in the majority of cases to two types. Those whose index was high in the morning before exercise gave a curve with the apex downward as the result of the exercise, while those with an index starting low in the morning made a curve with the apex pointing upward as the result of exercise.

Inman suggests that the groups A and B point to a localized chronic tuberculous infection, which, however, calls for treatment and must still be regarded as active. The high indices of groups C and D may be regarded as significant of greater activity of disease in that they imply an increase in the elaboration of protective substances in the serum. Inman concludes that in the early diagnosis of pulmonary tuberculosis the recent methods of concentration should always be employed for the exposition of tubercle bacilli in the sputum and feces. The difficulty of interpreting the results of the various tuberculin tests seriously limits their value in the diagnosis of active pulmonary tuberculosis. A positive opsonic index test is of undoubted value in the diagnosis of active pulmonary tuberculosis. A negative opsonic index test must be taken with reserve. The interpretation of the result rests with the clinician, who can take into consideration all the additional factors in the diagnosis of the case.

Journal of Tropical Medicine and Hygiene, London

November 15

22 Experiences in Yucatan. H. Seidelin.
23 Filariasis in Morocco. G. Breeze.
24 Development of "Green-Bottle Fly" at Sierra Leone, West Africa. R. W. Orpen.
25 *Fasciolopsis Buski* in Natal. B. Nicol.
26 Duration of Infection of Malaria. G. C. Low.

Clinical Journal, London

November 23

27 Typhoid. W. H. White.
28 Secondary Cancer of the Ovary. J. Bland-Sutton.
29 Pathology of Certain Ovarian Tumors. B. H. Spilsbury.

November 30

30 Gynecologic Therapeutics. F. McCann.
31 Hemorrhoids. A. Baldwin.
32 Common Operations. H. S. Pendlebury.

Glasgow Medical Journal

December

33 Recent Advances in Hematology. W. K. Hunter.
34 Prophylaxis in Obstetrics. A. W. Russell.
35 Education of the Very Young Deaf Child. J. K. Love.

Medical Press and Circular, London

November 23

36 Common Juvenile Acne. P. Rostaine.
37 *Value of a Restricted Diet in Certain Acute Inflammatory Diseases of the Skin. L. D. Bulkley.
38 *A Dermatitis Among Flower-Pickers in the Scilly Islands, the So-Called "Lily Rash." D. Walsa.
39 Dyspepsia and Gastritis. J. A. Gibson.

November 30

40 Diagnosis of Prolonged Pyrexia. F. Taylor.
41 Tumor in the Region of the Corpora Quadrigemina. R. T. Williamson.
42 Fever from Doubtful or Unknown Causes. H. Plehn.
43 Tabard Street and Grotto Place Unhealthy Homes. F. J. Waldo.

37. This is an abstract of a paper read before the Dermatological Section of the British Medical Association and published in full in the *British Medical Journal*, Sept. 24, 1910.

38. Also published in the *British Medical Journal*, Sept. 24, 1910.

Annales de Gynécologie et d'Obstêtrique, Paris

December, XXXVII, Nos. 11-12, pp. 721-864

44 *Uncontrollable Vomiting of Pregnancy. (Pathogénie et traitement des vomissements incoercibles de la grossesse.) G. Fieux.
45 Relations Between Cholelithiasis, Pregnancy and Delivery. J. Audebert and R. Gilles.

44. **Pernicious Vomiting of Pregnancy.**—Fieux declares that the vomiting for which the pregnancy is directly responsible seems to be restricted to the first weeks up to the end of the fourth month. The vomiting which occurs toward the end is due to an entirely different form of toxemia, he thinks. Hypotension is the rule in the early vomiting, while those women developing an eclamptic condition have hypertension. His experiments suggest that the villi of the chorion in the first months of pregnancy induce the production of an antibody which can be revealed by the complement-deviation test during the second and third months, but the findings are negative after the fourth. In certain cases, the tendency to vomiting persists from a psychic automatic action; the neuropath continues to vomit because this early symptom, combined with the idea of being pregnant, has induced a kind of obsession. It is in such cases, he declares, that institutional treatment and isolation are specially useful. In all cases, he continues, the diet should be carefully supervised; sometimes

milk by the teaspoonful may tide the patient past the danger point, or vegetable soups may be better tolerated. In some cases he has had patients retain and thrive on a little sheep brain, thoroughly boiled, mashed and mixed with a lemon-water-ice (*sorbet*), when milk was not retained. Fluids should be supplied in abundance even if infusion is necessary. The main point is to give the patients time to conquer the tendency to vomit by their own reactional resources, as the physician has no direct means of curing the evil tendency. Retention of urine and possibly also a pulse-rate persistently over 100, are important signs that the patient must be relieved at once of the pregnancy. Signs of polyneuritis or jaundice compel immediate evacuation of the uterus, he declares, as they show that the toxemia is getting the upper hand, and he advises against waiting too long. He warns that vomiting during pregnancy must not be confounded with the vomiting of pregnancy; some intercurrent affection may be discovered. He thinks that Copeman's method acts by suggestion; it aims to change conditions by slight dilatation of the uterine cervix with the fingers, detaching the inferior pole of the ovum. He advocates emptying the uterus even in the most apparently desperate cases, as he has witnessed actual resurrections when all seemed lost.

Annales de Médecine et Chirurgie Infantiles, Paris

November 15, XIV, No. 22, pp. 689-724

46 *The Dwelling and the Health of Children. P. Lassablière and E. Schatzmann.
47 School Desks. (Le mobilier scolaire au dernier congrès d'hygiène scolaire.) F. de Courmelles.

46. The Dwelling and the Health of Children.—Lassablière and Schatzmann give the details resulting from careful study of conditions in fifteen families of the working classes. The morbidity was in inverse proportion to the size and number of rooms, and the absence of sunlight and defective ventilation give the results that might naturally be expected.

Bulletin de l'Académie de Médecine, Paris

November 22, LXXIV, No. 37, pp. 339-357

48 Reportable Infectious Diseases in the French Colonies. H. Vincent.
49 Necessity for Compulsory Notification of Paratyphoid Fever H. Vincent.

Presse Médicale, Paris

November 30, XVIII, No. 96, pp. 897-904

50 *Syphilitic Mediastinitis. M. Dieulafoy.

December 3, No. 97, pp. 905-920

51 Tarsalgia in the Adolescent Not an Attenuated Tuberculosis. A. Broca and E. Levy.

December 7, No. 98, pp. 921-928

52 History of Endocarditis with Acute Rheumatism. A. Chauffard.
53 *Minor Signs of Malta Fever. P. Darbois.

50. Syphilitic Mediastinitis.—The only testimony as to the syphilitic nature of the puzzling syndrome observed was the prompt recovery under mercury. There were no signs or history of syphilis and the symptoms indicated severe compression of organs by a tumor in the vicinity of the superior vena cava. The patient was a man of 63, supposedly healthy until the last year. The symptoms from the assumed tumor in the mediastinum growing worse, an operation was decided on but was preceded by a tentative course of mercury; in less than a month there was complete recovery. The case is another example, the author states, of the protean manifestations of ignored syphilis. Dieulafoy makes it a rule now to give mercury in every organic lesion whose cause cannot be detected, regardless of the Wassermann findings.

53. Minor Signs of Malta Fever.—Among the symptoms which are not generally known are a mild orchitis; four or five sweats during the night, the sweat frequently being fetid and soaking the mattress; constipation, sometimes alternating with profuse diarrhea the moment the sweats stop; fleeting pains or the pain may be localized in the heels, sacro-iliac articulation or epigastrium; there may also be falling of the hair, both on the head and body, and in the intervals between the acute exacerbations there may be desquamation without preceding erythema. When the disease drags along for months, there may be localized edema and the limb involved feels intensely cold or the patient may feel chilly all over most of the time. Darbois calls attention to these minor signs of the infection as an aid when the diagnosis is dubious.

Semaine Médicale, Paris

December 14, XXX, No. 50, pp. 585-594

54 *Paraplegic Dementia from Chronic Cortical Encephalitis. (Nouveau syndrome anatomo-clinique.) G. Deny and J. Lhermitte.

54. Non-Senile Paraplegic Dementia.—Deny and Lhermitte report the clinical and anatomic details of a case of dementia with progressive paraplegia due to a chronic cortical encephalitis. The lesions and symptoms resembled those of paraplegic dementia resulting from patches of softening of the brain, and they differ completely from the lesions of senile paraplegic dementia. The patient was a woman of 48 and the first symptoms had been observed nearly two years before death.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 1, pp. 1-173. Last indexed Dec. 10, 1910, p. 2100

55 *The Two Weak Points in the Mediastinum. (Die "schwachen Stellen" des Mediastinums und ihre klinische Bedeutung bei pleuritischen Exsudat with Emphysema.) G. Nitsch.
56 Spontaneous Pneumothorax with Emphysema. H. Bach.
57 *Quantitative, "Titration" Cutaneous Tuberculin Reaction. W. Mirauer.
58 *Artificial Pneumothorax in Pulmonary Tuberculosis. K. Wellmann.
59 Experimental Research on Effects of Artificial Pneumothorax. (Zur Kollapstherapie der Lungentuberkulose.) E. Ruediger.
60 *Comparative Value of Cutaneous and Conjunctival Tuberculin Tests in Children. E. Feer.
61 *Inefficiency of Tuberculin Test by the Mouth. (Interne Tuberkulindarreichung zu diagnostischen Zwecken.) F. Hell.
62 *Action of Functional Rest of the Lung on the Extent and Course of Pulmonary Tuberculosis. A. N. Rubel.
63 Immunity of Tuberculous Animals to Tuberculosis Infection by Inhalation. F. Hamburger and T. Toyofuku.
64 The Advantages of the Picrin and Antiformin Methods for Microscopic Examination of Sputum. W. Polugorodnik..

55. The Two Weak Points in the Mediastinum.—Nitsch refers to the region back of the upper part of the sternum, where the thymus has retrogressed, as the first weak point. The second region is bounded by the spine and aorta at the back and the esophagus and heart in front. He discusses the significance of these weak points in development of pleural effusions and pneumothorax.

57. Titration Tuberculin Test.—Mirauer's experience, he states, has confirmed the simplicity and superior advantages of the serial quantitative method for the tuberculin local test, according to the Ellermann and Erlandsen technic. (It was described in THE JOURNAL, May 15, 1909, page 1634.) He declares that it seems to be the best method at our disposal for estimating tuberculous infection in adults, but that as yet, it is scarcely adapted for introduction into general practice. Its chief advantage lies in the possibility of more exact prognosis.

58. Pneumothorax in Treatment of Pulmonary Tuberculosis.—Wellmann summarizes the experiences with this measure in twenty-seven cases at the clinic in charge of Matthes at Cologne. The indications were for chronic pneumonia or pulmonary tuberculosis; in thirteen of the cases it was impossible to restrict the pneumothorax solely to the diseased lung. In one case the sound upper lobe of the lung was compressed also without apparent injury. It resumed its function without showing any functional disturbances afterward. On the ground of the experiences related, Wellmann commends this measure for wider adoption; it is liable, he thinks, to prove serviceable while the final judgment can be made only on the basis of more extensive and longer experience.

60. The Cutaneous and Conjunctival Tuberculin Tests in Children.—Feer states that the v. Pirquet cutaneous tuberculin test has been applied to 2,000 children at the clinic for children's diseases at Heidelberg, and that its value has been appreciated more and more in the course of this experience. It is especially instructive between the ages of 3 and 5. The reaction is rarely positive at this age but it indicates an active process when it does occur. The conjunctival test was applied in 371 cases: the reaction was positive in only 28 per cent. of the cases of inactive tuberculosis, while it was positive in 78 per cent of the active cases. Thus it points more exclusively to the active processes than the cutaneous reaction, but this advantage is counterbalanced by the fact that conjunctivitis with phlyctenæ developed in 5 out of the 101 cases giving a positive reaction to the conjunctival test. The lesions all healed in two or three weeks but the fear of this complication led to abandonment of the ocular technic, although in one case phlyctenæ developed after the cutaneous test alone. There were no signs of scrofula in any of these children with phlyctenæ. On the other hand, he has never encountered a typical case of scrofula in which the cutaneous tuberculin test failed to induce a positive reaction.

61. **Internal Tuberculin Test.**—Hell was unable to obtain any evidence of a reaction for diagnostic purposes in twenty-five persons given tuberculin internally, even in amounts up to 80 mg. The Moro tuberculin salve test, applied later, gave a positive reaction in nearly every instance.

62. **Influence of Functional Rest of the Lung on Pulmonary Tuberculosis.**—Rubel's experiments were made on rabbits and dogs, and he immobilized the lung without compression. This was accomplished by passing a wire into the pleural cavity and out again two or three interspaces below. The wire was then drawn tight and tied; this squeezed the enclosed ribs close together, obliterating the interspaces. The result was that this side of the chest lagged behind the other side in respiration and its excursions were hampered. The animals were then infected with tubercle bacilli injected into a vein in the ear. The difference between the operated and unoperated side was striking when the animals were examined after death. Control experiments with uninfected animals and with a dog infected by injection of the culture directly into the lung tissue, all confirmed the fact that functional rest of the lung was responsible for a pronounced retrogression of the tuberculous inflammatory infiltration and that it evidently favored cicatricial transformation of the tubercle. The bacilli seemed to locate on and penetrate into the tissues more readily in the less active lung. The blood-supply to the lung seems to be more profuse the greater the respiratory excursions, and the more active the movements of the lung the greater the dissemination of bacteria from it as the more abundant blood-supply washes them along. The results of the research reported throw light on the question as to the retention and burrowing into the tissues of infectious material brought to the lung in the venous blood, and as to the local anatomic changes that develop in the comparatively quiescent lung.

Berliner klinische Wochenschrift

November 28, XLVII, No. 48, pp. 2177-2224

65 *Progress in Knowledge and Treatment of Necrosis of the Pancreas. H. Coenen.
66 *Buttermilk for Infants with Acute Indigestion. (Säuglingsernährung bei akuten alimentären Störungen.) J. Ritter and W. Buttermilch.
67 The Movements of the Heart and the Electrocardiogram. E. Rautenberg.
68 Improved Gastroscope and Its Findings. H. Elsner.
69 Theory of Anaphylaxis. U. Friedemann.
70 Baseless Claims for a "Non-Toxic Tuberculin." (Das Endotin.) A. Wolff-Eisner.
71 *Kaolin and Carbon Dioxid Snow in Therapeutics. (Erfahrungen über die therapeutische Verwendung von Bolus alba und Kohlensäureschnee.) M. Klotz.
72 Proposed Legislation on Confinement of the Insane. H. Lieske.

65. **Necrosis of the Pancreas.**—Coenen comments approvingly on the increasing tendency toward early operating in acute pancreatitis. Dreesmann found on record in 1909, 118 cases in which an operation was done, with recovery in 45 per cent. The proportion of recoveries was 80 per cent. in the forty cases in which the pancreas had been exposed and tamponed early. Recent research suggests that the necrosis is the result of autolysis from activation of the pancreatic secretion by bacterial action, the bacteria penetrating into the pancreas in infected bile or intestinal juice. The resulting autolysis entails necrosis and the toxic substances then generated seep into the surrounding tissues and induce the severe general symptoms as they are absorbed. The aim in treatment is to expose the diseased pancreas as soon as possible and by packing with gauze to prevent the toxins generated from finding their way into the abdominal cavity. He reports five cases in which treatment on this line proved promptly effectual except in one case in which the pancreas trouble was secondary to a perforated gastric ulcer. The pancreatic secretion drained away in this case amounted daily to a liter or a liter and a half. A gaseous abscess in one of the patients contained nearly 2 liters of gangrenous masses, and in a case reported by Fasano, fully 4 liters. There is no doubt that mild acute pancreatitis can heal spontaneously; the conditions are about the same as with appendicitis. The same surgical principles should prevail for both affections, although early differentiation is more difficult with pancreatitis. The syndrome generally suggests ileus or perforation peritonitis at first.

66. **Feeding of Infants with Acute Indigestion.**—A number of case histories and curves are given to show the advantages of feeding infants suffering from severe acute indigestion with buttermilk, when breast milk is unattainable. The tolerance for carbohydrates seems to suffer first and most, and buttermilk, free from both fat and carbohydrates, seems to be assimilated even by the youngest infants. In the cases reported, it was sweetened with saccharin in some cases and preceded or accompanied by weak tea. The buttermilk must not be either too young or too old, the acidity ranging from 31.6 to 24 (Soxhlet-Henkel) and no peptonizing bacteria should grow on the first plate with the dilution technic. The buttermilk is given unmodified according to indications.

71. **Kaolin and Carbon-Dioxid Snow.**—Klotz found kaolin—bolus alba—superior to other dusting powders for many skin affections on account of its exceptional absorbent properties. It proved especially useful in eczema with much secretion, intertrigo, vulvovaginitis, etc. The experiences with it for internal use were not satisfactory. He also reports the successful application of carbon-dioxid snow in treatment of excessive granulation and subcutaneous tuberculids, tuberculous fistulas and nevus. For small teleangiectasia one minute's application is the limit, and the tolerance of the skin should be cautiously tested.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 1, XL, No. 34, pp. 1129-1176

73 Internal Secretion and Autolysis. K. Kottmann.
74 Recovery After Removal of Spinal Cord Tubercle. (Subpialer makroskopisch intramedullärer Solitärtuberkle in der Höhe des vierten und fünften Cervicalsegmentes—Operation. Genesung.) O. Veraguth and H. Brun.

Deutsche medizinische Wochenschrift, Berlin

December 1, XXXVI, No. 48, pp. 2225-2272

75 Treatment of Diseases of the Teeth. (Allgemeine Behandlung der Z[illegible]
76 *Recent [illegible] s of Diseases of the Pons and [illegible] nberg and O. Marburg.
77 *Techni[illegible] with Salvarsan. H. C. Plaut.
78 *Cutaneous Bovine Tuberculin Reaction. (Perlsuchtreaktion nach Pirquet.) E. Klose.
79 Dilatation Treatment of Phimosis. (Stumpfe Behandlung der Phimose im Kindesalter.) C. Stuhl.
80 Oxygenated Baths. (Das Sauerstoffbad, seine Wirkungsweise und seine therapeutische Verwendung.) F. Scholz.

December 8, No. 49, pp. 2273-2320

81 Brain Surgery. [illegible] lebrand.
82 Atoxyl and Its [illegible]
83 Salvarsan in Int[illegible]
84 Salvarsan in Syphilogenous Nervous Disease. H. Oppenheim.
85 Salvarsan in Malaria, Vincent's Angina and Syphilis. T. Rumpel.
86 Salvarsan in Syphilis. C. Stern.
87 Repeated Small Doses of Salvarsan in Syphilis. E. Kromayer.
88 Manufacturers' Directions for Use of Salvarsan. (Vorschriften für die Anwendung des Ehrlich-Hataschen Mittels.)
89 *Operative Treatment of Hay Fever. (Erfolge der operativen Heufieberbehandlung durch Resektion des N. ethmoidalis anterior.) E. Blos.

76. **Topical Diagnosis of Lesions at Base of Brain.**—Wallenberg and Marburg discuss the topical diagnosis of lesions in the pons and medulla oblongata as recent research and experiences have thrown light on the subject. At the same time they say that this more exact localization shows that we can scarcely speak of local symptoms in the narrower sense; the aim is to unravel from the general phenomena those for which certain tracts and centers are responsible; the symptoms themselves are not so instructive, perhaps, as the time when they appear, the subsidence of certain phenomena, their reciprocal influence on each other, and their sequence. Wallenberg declares that further perfecting of clinical methods of investigation will lead to great precision in localization.

77. **Salvarsan in Syphilis.**—Plaut states that softening or necrosis was observed at the point of injection in the breast in eight out of twenty-six patients, and a toxic exanthem in three others, but that these by-effects are counterbalanced by the prompt action of the drug. No effect of any kind was apparent in a case in which the drug was injected in the back.

78. **Bovine Tuberculin Cutaneous Reaction According to v. Pirquet.**—Klose applied the Pirquet technic on 120 children suspected of tuberculosis. Among the seventy-five children with positive findings nearly all presented the typical reaction to both the human and bovine tuberculin; only 9.3 per cent. reacted to human tuberculin alone and only 5.34 to the bovine tuberculin alone. He theorizes on these findings, remarking that the v. Pirquet technic can be regarded as complete only when it is applied with both human and bovine tuberculin. The practical conclusion of this seems to be that the special tuberculin involved should be used in treatment or the one giving the strongest reaction when both give positive results.

89. **Operative Treatment of Hay Fever.**—Blos reports the later history of three patients who seem to have been freed permanently from chronic hay fever and hay asthma by resection of the nasal nerve as it emerges from the anterior ethmoidal foramen. He gives the details of the technic. His results apparently confirm Killian's views summarized in these columns, Nov. 12, 1910, page 1770.

Medizinische Klinik, Berlin

December 4, VI, No. 49, pp. 1921-1964

90 *Acute Heart Disease in Children. (Die akuten Herzkrankheiten im Kindesalter.) F. Göppert.
91 Transmission of Disease in Mines. (Inwieweit findet eine Verbreitung von übertragbaren Krankheiten durch den Kohlenbergbau statt?) H. Bruns.
92 *Dangers of Iodin Therapy. (Gefahren der Jodmedikation, Jodempfindlichkeit und Jodbasedow.) Römheld.
93 *Familial Ataxia. L. Wutscher.
94 Electrolytic Treatment of Atheroma. (Behandlung der Balggeschwülste mittels Electrolyse.) M. Horovitz.
95 Technic for Preparing Emulsion of Salvarsan. S. Jessner.
96 Staining Technic for Gonococci. (Bedeutung der Gramschen Entfärbungsmethode für den Gonokokkennachweis.) E. R. W. Frank.
97 Tropical and Glacial Geological Eras. (Tropenklima und Eiszeiten in der Vergangenheit der Erde.) F. Frech. Commenced in No. 48.

90. **Acute Heart Disease in Children.**—Göppert discusses principally the dubious points in diagnosis and treatment, especially those which may lead to the erroneous assumption of a heart defect in the young. Among them are the heart-lung murmurs which are not due to organic trouble, but appear and disappear during the examination and become inaudible if the breath is held in the expiration position. Lüthje has found systolic murmurs at the pulmonary orifice so often that he declares they are an almost normal occurrence in the development of the child. The murmur varies with the excitement of the child and is characterized by its localization and its inconstancy. In Göppert's experience, a slight impurity in the first sound of the heart has frequently led to the mistaken assumption of an endocarditic murmur; and a duplicated second pulmonal sound is liable to cause unwarranted concern. If no other changes can be discovered in the heart, these murmurs may be regarded as accidental. The pulse-rate is liable to be unusually high in children, sometimes being 100 and over, when the child is examined and over 90 when it is at rest, even up to the age of 10, and the apex in children between 4 and 13 or 15 years old lies farther to the left than in adults. If the child is excited, the findings may be misleading. If the pulse is good Göppert has the child run up two flights of stairs and examines him again as soon as he comes down. With normal conditions the child is only a little out of breath and the increased pulse-rate returns to normal in about three minutes and keeps strong throughout. Sometimes the heart-beat is quieter after the test than before, as the little diversion has tranquilized the child. In a recent case a boy of 10 had been unduly nervous and weakly for a year after a rescue from drowning, and repeatedly, whenever he was examined, his pulse-rate was between 130 and 140, and the apex beat lifted the chest wall in the nipple line. The child was told to run up and down a flight of stairs five times; three minutes afterward the pulse had dropped to 90 and there was not a trace of dyspnea. The boy's heart was evidently sound. In dubious cases the child can be sent up the flight of stairs twice in fifteen minutes. Only when the embarrassed breathing and weaker pulse persist longer than three minutes is the diagnosis of heart weakness from dilatation justified in these cases—not by the mere history of weakness and tendency to attacks of faintness. An hour's rest in bed during the day is generally sufficient to keep such children in good condition, their life otherwise need not be interfered with except that they must avoid long walks and athletic exercises. Göppert warns against the erroneous diagnosis of myocarditis when the pulse is slow and occasionally intermittent. This form of irregularity is comparatively frequent in children, possibly from intestinal reflexes or growth anomalies. Hirsch explains it as an extrasystole. The stair test, Göppert says, is followed by acceleration and normal regularity of the pulse, but the irregularity returns as the effect of the test subsides. This pulse anomaly is very puzzling at times, especially when the child is first seen during an attack of vomiting and constipation. It is still more liable to be misconstrued after an acute infectious disease. During the fever the pulse is regular, and the discovery of irregularity suggests myocarditic mischief. He reports a case in which a youth was dismissed from the military academy on account of the discovery of the supposed myocarditis. It was only with the greatest efforts that he was saved from becoming a "heart hypochondriac," especially as another physician had confirmed the diagnosis of myocarditis. The course of the case finally cleared up the diagnosis. When there is actual heart disease, as after scarlet fever or acute rheumatism, the physician's main task, Göppert reiterates, is to keep the children quiet in bed until all the inflammatory phenomena have subsided. Many children are allowed to be up for weeks when there is still a temperature over 38 C. (100.4 F.); they should be kept in bed until the temperature in the rectum, in bed, remains normal. After the temperature has become normal the child should be allowed to recline out of doors, but it is important to see that the back is well protected with blankets.

92. **Dangers of Iodin Medication.**—Römheld remarks that few realize that iodin and all preparations of iodin, including thyroid tablets, are liable to induce exophthalmic goiter in a patient with a personal or family tendency to goiter and obesity, even when the individual presents no signs of goiter. Every year he encounters cases of incipient or feared arteriosclerosis in which iodin has been given and serious symptoms suggesting exophthalmic goiter have developed. He reports in detail eight cases to sustain his assertion. In six of the cases a latent exophthalmic goiter was aroused and aggravated; and in the others, patients with a family history of goiter developed the exophthalmic syndrome under the iodin. The severity of the symptoms does not seem to stand in any proportion to the amount of iodin taken.

93. **Familial Ataxia.**—Wutscher reports a case in which a girl of 10 presented a typical case of Friedreich's ataxia while her brother, aged 24, developed a typical cerebellar heredoataxia of the Marie type.

Münchener medizinische Wochenschrift

November 29, LVII, No. 48, pp. 2505-2560

98 *Research on Saline Infusion. (Einfluss der Kochsalzinfusion.) M. Henkel.
99 Chronic Gastric Ulcer in Roentgen-Ray Picture. (Das chronische Magengeschwür und sein röntgenologischer Nachweis.) H. Rieder.
100 The Liver in Scarlet Fever. (Das klinische Verhalten der Leber bei Scharlach.) W. Hildebrandt.
101 Transmission of Anaphylaxis from Father and Mother to Child. F. Schenk.
102 Value of Relative Leukocyte Count. Hecker.
103 Technic for Intravenous Injection of Salvarsan in Syphilis. T. Hausmann.
104 Salvarsan in Syphilis. Chrzelitzer.
105 Salvarsan in Leprosy. M. Gioseffi.
106 Orthopedic Treatment of Tuberculosis of Ankle. (Fussgelenkstuberkulose.) A. Schanz.
107 Experimental Research on Secretion of Suprarenal Medulla During Gestation. (Zur Adreninämie des Blutes in der Gestationsperiode des Weibes.) M. Neu.
108 *Treatment of Ataxia. K. Uibeleisen.

98. **Influence of Saline Infusion.**—Henkel discusses some recent communications on the effect of saline infusion as liable to be injurious, but states that his experience has been

the reverse. It seems evident that animals are affected differently from human beings—all his experiences speak in favor of the harmlessness and possible benefit from salt incorporated in various ways, even when the kidneys are decidedly pathologic. Six pregnant women near term were given 10 gm. of salt daily for a month. The urine was examined daily for two weeks and then every third day. In a second group, four pregnant women were given an intravenous injection of 5 c.c. of a 10 per cent. solution, and four others a subcutaneous infusion on three occasions of 1 liter of 1.8 per cent. salt solution every third day. In none of the women was there any evidence of injury and albumin never appeared in the urine; except for increased output of urine there did not seem to be any symptom from the saline infusion. Another woman with parenchymatous nephritis but no edema was given an intravenous injection of 5 gm. of a 5 per cent. salt solution and two days later 5 gm. of a 10 per cent. solution. The Esbach findings previously had been 4 per cent., but notwithstanding the saline infusion the albuminuria constantly declined and the urine was normal in eight days. In another case of nephritis with edema during the puerperium, the 4 per 1,000 albuminuria had subsided by the nineteenth day to mere traces. The woman was then given two intravenous injections of the same amount and concentration as the other patient, but all within twenty-four hours, and no harm resulted. The edema did not return and the urine remained normal. In a still more severe case of nephritis with 8 per 1,000 albumin and changes in the retina, subcutaneous infusion of 1 liter of 1.8 per cent. salt solution increased the output of urine but did not check the progressive subsidence of the albuminuria, which sank to 0.25 per 1,000 by the second day of the puerperium, then 15 gm. of a 10 per cent. salt solution were given at one time. The albuminuria did not increase and the diuresis remained good. In another case a woman at the ninth month of pregnancy, free from albuminuria, was given an intravenous injection of 5 c.c. of a 10 per cent. salt solution, repeated three days later and after the fifth day the same amount of a 20 per cent. solution. There was no albuminuria at any time and the specific gravity of the urine increased only from 1,017 to 1,020. Weichel has recently reported that a 10 per cent. salt solution kills the bacteria of meat poisoning, and Henkel thinks that this confirms the general impression in regard to the direct disinfecting action of salt. He knows of no other disinfectant that can kill bacteria in tissues without injuring the tissue. Many have already witnessed great benefit from saline infusion and the experiences here related supply, he says, the scientific basis for the clinical facts observed. Notwithstanding, therefore, the unfavorable action of salt in experiments on animals, he thinks that there is no reason to refrain from saline infusion in the clinic, not even when there is edema, a heart defect or nephritis. He has made much use of salt in eclampsia, and has never witnessed harm but rather benefit.

108. **Treatment of Ataxia.**—Uibeleisen has found that patients with severe ataxia have more confidence and do the exercises better when standing in water nearly to the chest. The buoyancy of the water helps to make the movements easier. He has a tank set in the floor for the purpose, 4.5 m. long, 1.2 m. deep by 0.68 cm. wide (14 by 4 by 2 feet), with a railing for the stairs leading down into the tank. The railing is continued around the tank about 12 cm. from the top. This supplies a convenient support and the steps are useful when the patient wishes to sit down and rest. If the ataxia involves the arms, the patient is supported by a belt held by the attendant. He says that it is amazing to see how quickly the patients gain confidence as the water buoys up the limbs. As the patient improves, less and less water is allowed in the tank until finally the exercises are done in the empty space. Constant supervision is, of course, indispensable while there is water in the tank.

Wiener klinische Wochenschrift, Vienna

December 1, XXIII, No. 48, pp. 1703-1738

109 *Puncture of Corpus Callosum to Relieve Pressure on the Brain. (Operative Druckentlastung des Gehirnes bei Tumoren und anderen Gehirnkrankheiten.) G. Anton.

110 Defects in Development and Tumors. (Bildungsfehler und Geschwülste.) J. Bartel, K. Einäugler and V. Kollert.

111 Hypertrophy of Heart in Beriberi. (Zur Kenntnis der Entstehungsweise der Herzhypertrophie bei der Beriberi-Krankheit.) Y. Tanaka.

112 Microsporon Alopecia Areata. (Mikrosporie.) M. Schramek.

113 Subsidence of Sarcoma of Prostate Under Endovesical Radium Exposures. R. Paschkis and W. Tittinger.

December 8, No. 49, pp. 1739-1778

114 Prophylaxis of Ophthalmia Neonatorum. (Antrittsvorlesung.) F. Dimmer.

115 Sensory Disturbances in Vitiligo. H. Königstein.

116 Eosinophil Count. (Zählen der eosinophilen Zellen nach der Dungerschen Methode.) A. Galambos.

117 *The Mercury Lamp and Colored Light in Diagnosis. (Diagnostische Verwendung des monochromen und Quecksilberlichtes in der Medizin.) L. Freund.

118 Giant Cells in the Urine as Sign of Urogenital Tuberculosis. (Riesenzellen im Harnsedimente bei Urogenitaltuberculose.) H. Steindl.

109. **Puncture of Corpus Callosum to Relieve Pressure on the Brain.**—Anton summarizes the further experiences with this operative treatment of hydrocephalus, etc., since his last communication on the subject, reviewed in The Journal, Nov. 13, 1909, page 1638. Bramann has thus operated in 37 cases, the aim being to restore the communication between the anterior horn of the ventricle and the cavities of the brain, imitating the natural process of the opening of the foramen of Magendie to permit passage of fluid from one space to the other. In six cases the operation was done on account of external tumors; in seven for a tumor in the ventricle; in the hypophysis in four cases; for hydrocephalus in twelve, complicated with choked disc in one; for epilepsy in three; for syphilitic meningitis, echinococcus and steeple skull in one case each. The neuritis of the optic nerve retrogressed in twelve cases and was uninfluenced in eight. Coma and stupor subsided at once in fifteen cases. Paralysis, ataxia and contracture were favorably influenced in twenty-one cases. Vertigo and vomiting were arrested in fifteen cases but persisted unmodified in four. There was no operative fatality but one patient with tumor of the hypophysis died in a few days, and nine with brain tumors have succumbed since to other complications. Of the three epileptics, the seizures recurred in one. The results were exceptionally good in the hydrocephalus cases. In case of a brain tumor, the symptoms become much more instructive when those from pressure disappear after puncture. It postpones the danger of blindness so that time can be gained for more exact localization of the tumor Puncture of the corpus callosum may also prove useful, he thinks, in the course of other operations on the brain, to forestall danger of hernia or laceration. Anton calls attention also to recent research which seems to demonstrate that the cerebral fluid thus dammed up acquires certain special properties which are liable to have a direct therapeutic action when drained into the general circulation. The nerve and other tissues may be suffering from the lack of special elements in the retained cerebral fluid. Experiences related by Roubinovitch suggest that the fluid released by the puncture might be reinjected subcutaneously to aid in restoring the chemical coordination of the organism.

117. **Colored Light in Diagnosis of Eruptions, Etc.**—Freund says that the blue light from a mercury lamp, the yellow light from burning soda and other monochrome lights may reveal slight changes in the skin that escape detection by other means. The colored lights are of not much use for differentiating cutaneous affections, but with them it is possible to seize the faintest, possibly briefly transient eruption or efflorescence and thus permit the correct diagnosis, unattainable in any other way. At the Vienna clinic for syphilis and skin diseases, in charge of Finger, the mercury or soda light is used to reveal red eruptions while the bluish discolorations are sought for with red lithium light or the yellow soda flame. The soda light is obtained by pouring a little soda into a grooved platinum ring fastened in a gas jet or in the flame of a Bunsen burner. Lithium gives a red, and thallium a green light; filtering the light through colored glass also gives interesting findings.

Zentralblatt für Chirurgie, Leipsic

November 19, XXXVII, No. 47, pp. 1489-1520

119 Apparatus for Positive Pressure in the Lungs During General Anesthesia. (Apparat zur Ueberdrucknarkose.) J. Schoemaker.

120 *Adrenalin-Saline Infusion and Chill. (Adrenalin-Kochsalzinfusion und Schüttelfrost.) C. Haeberlin.

November 26, No. 48, pp. 1521-1544

121 Technic for Resection of Spinal Roots. (Zur Technik der Foerster'schen Operation.) N. Gulcke.
122 *Technic for Cleft-Palate Operations. (Neues zur Technik der Gaumenspaltoperationen.) C. Helbing and G. v. Lobmayer.

120. **Fatality After Adrenalin-Saline Infusion.**—Haeberlin reports a case of peritonitis in which intravenous infusion of 1.500 c.c. of salt solution to which 8 drops of adrenalin had been added gave immediate relief but was followed an hour later by severe chill and increasing pulse-rate and temperature, with death in less than three hours. He explains this as the result of washing out from the lymphatics the accumulated residual toxins. This sudden flooding of the circulating blood with toxins and their absorption readily explain the symptoms in sepsis under the vasoconstricting action of the adrenalin.

122. **Improved Technic for Cleft Palate Operations.**—Helbing says that by cutting the upper jaw away from the malar bone, it slips forward and closes the cleft. In a case described, he introduced a small chisel into the mouth and cut through the bone transversely above the second premolar tooth, driving in the chisel until its edge could be felt from without at the margin of the orbit. After removal of the chisel, strong pressure on the jaw pushed it inward until the cleft was nearly closed, and the jaw was held in this position by three wires passed through holes bored in the jaw according to Brophy's technic for closing cleft palate in new-born infants. Four days later he completed the operation on the cleft palate in the usual way, except that he used horsehairs instead of silk as they do not swell and particles of food do not cling to them. Since he has been using horsehairs for suturing, he has had no necrosis of the edges; it is impossible to draw these hairs too tight, as they break. In the case described he found that this operation on one side was sufficient, and corrected a tendency to asymmetry. There are no veins nor large vessels to be injured at the point where he applied the chisel, slanting it up toward the outer canthus. The divided jaw healed solidly in its new place, so that by the end of four weeks all was firm again.

Lobmayer stains the threads with the stains used in histologic technic, the colored threads alternating in turn with unstained thread. It is then an easy matter to tie the two ends of the threads without confusion. These stains are not discolored by blood and do not irritate the tissues.

Zentralblatt für Gynäkologie, Leipsic

November 26, XXXIV, No. 48, pp. 1553-1584

123 Tubal Sterilization. R. Asch.
124 Surgical Obstetrics. (Zum Ausbau der chirurgischen Aera in der Geburtshilfe.) E. Solms.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 10, XXXI, No. 135, pp. 1425-1432

125 Organ Extracts Unable to Neutralize Toxicity of Suprarenal Extract. (Tossicita adrenalinica ed estratti organici. A. Farini.

November 15, No. 137, pp. 1449-1456

126 *Major Operations Under Primary Ether Anesthesia. (Contributo clinico all'anestesia generale per mezzo dell'ebbrezza eterea, secondo Sudeck, anche in operazioni di lunga durata.) C. Mariani.

November 17, No. 138, pp. 1457-1464

127 Local Therapeutic Action of Protargol in Stomach and Intestinal Disease. A. Cantani.

November 20, No. 139, pp. 1465-1480

128 *Pseudotumors in the Intestines. F. Ferron.

November 22, No. 140, pp. 1481-1488

129 Flap from Sartorius Muscle to Close Inguinal Canal. (La plastica col sartorio nella cura di certe ernie inguinali.) C. Mantelli.

November 24 No. 141, pp. 1489-1496

130 *Workmen's Compensation. (Liquidazioni d'indennita per gl'infortuni sul lavoro.) G. M. de' Luna.

November 27, No. 142, pp. 1497-1512

131 *Peripleuritis and Parametritis Secondary to Peripheral Suppurative Processes. T. Fiori.

November 29, No. 143, pp 1513-1520.

132 Anaphylaxis from Influenza Toxins. E. Patrone.

126. **Primary Ether Anesthesia for Long Operations.**—Mariani regards as a great advance Sudeck's technic for operating under the first whiffs of ether, profiting by the analgesia during the condition which resembles that of alcohol intoxication so much that he calls it the ether *Rausch*. Mariani has performed thirty-five laparotomies with this anesthesia alone, never letting the patient pass from the stage of "drunkenness" to that of agitation, only giving a few drops when there are signs of returning consciousness. He has also applied this anesthesia technic in five hysterectomies, forty-five herniotomies, in transvesical prostatectomy, numerous gynecologic operations and operations on bones and joints. The advantages of this technic are obvious, he says—no fatality has been known with it since Sudeck introduced it in 1901. The analgesia can be prolonged for an hour and a half or longer. There is less danger of postoperative pneumonia as the patient can swallow as saliva collects in his mouth, while the lesser quantity of the anesthetic used reduces danger from this source. The only disadvantage is that the patients may move and disturb the operator, but a few drops of chloroform stop this.

128. **Pseudotumors in the Intestines.**—Ferron describes four cases in which an exploratory laparotomy was followed by complete cure, the trouble being inflammatory congestion instead of the supposed new growth.

130. **Workmen's Compensation.**—Luna discusses whether it is not possible to estimate with mathematical precision the objective findings after an industrial accident. The trouble has been hitherto that the subjective impressions of the examiner were the bases on which the indemnity was computed, and this led to unscientific estimation of the results of the injury.

131. **Internal Inflammatory Processes Secondary to Peripheral Suppuration.**—In Fiori's first case an abscess developed close to the pleura followed by an abscess adjoining the kidney, the first coming on about a month after a phlegmon on the hand. The patient was a woman of 50. In the second case a paranephritic abscess developed about a month after operative treatment of a felon on the hand. Both patients were cured by prompt operative measures. There can be no doubt of the connection between the peripheral and internal lesion, he is convinced.

Policlinico, Rome

November 13, XVII, No. 46, pp. 1443-1474

133 Experiences with Radiotherapy. G. Scaduto. Commenced in No. 45.

November 20, No. 47, pp. 1475-1506

134 *Implantation of Internal Saphenous Vein in Peritoneum in Treatment of Ascites. F. Fasani-Volarelli.
135 Sarcoma of Pelvic Ligaments. Two Cases. G. de Francisco.

November, Medical Section No. 11, pp. 477-524

136 Changes in Respiratory Rhythm of Nervous and Other Origin. C. Frugoni. Commenced in No. 10.
137 *Lime and Spasmophilia in Children. (A proposito della ipotesi di Stöltzner sulla patogenesi della tetania dei bambini.) A. Longo.
138 Bile Cysts in the Liver. (Studio anatomo-patologico delle cisti biliari del fegato.) A. Nazari.

November, Surgical Section No. 11, pp. 477-524

139 Retrograde Incarceration of the Intestine. (Strozzamento intestinale retrogrado.) A. Passaggi. Commenced in No. 10.
140 Blood Cysts in the Spleen. (Cisti ematiche della milza.) S. Solieri.
141 The Bacteriologic Flora in the Normal Appendix. P. Frascella.

134. **Implantation of the Saphenous Vein in the Peritoneum for Ascites.**—Volarelli reviews the five cases on record in which the internal saphenous vein was implanted in the peritoneum in treatment of ascites. The outcome was a complete success in the three cases in which the saphenous vein was of normal size and permeable. In the two other cases necropsy showed total obstruction or excessively small size of the vein.

137. **Lime in Spasmophilia in Children.**—Longo reports research on the lime content in the blood in infants. In three with pronounced tendency to spasms and convulsions the blood contained lime in a proportion of 0.1662 to 0.252 per 1,000, but it was very nearly within this range in five healthy children—from 0.1406 to 0.2116. He discusses in detail the literature on the subject of lime in connection with spasmophilia, the general consensus of opinion being against Stöltzner's assumption that the tetanoid condition in infancy is due to lime intoxication. On the contrary, lime, he declares, seems to have a beneficial action in spasmophilia.

Riforma Medica, Naples

November 14. XXV, No. 46, pp. 1261-1288

142 Gastric Ulcer. G. Rummo.
143 Hydrochloric-Acid Secretion in Nephritis. G. Tria.
144 Danger of Sowing Cholera Germs from Water-Closets on Trains. (Della seminagione del vibrione del colera lungo le vie ferroviarie.) L. Vincenzi.

Hospitalstidende, Copenhagen

November 9, LIII, No. 45, pp. 1249-1272

145 *Indications and Age for Strabismus Operations. (Skeleoperationen belyst ved Undersøgelser over den sekundære Skelens Patogenese.) H. Rønne. Commenced in No. 44.

November 16, No. 46, pp. 1273-1296

146 Proportion of Hydrogen Ions in Stomach Content. (Brintionkoncentrationen i Maveindhold.) J. Christiansen.

145. **Indications and Best Time for Strabismus Operations.**—Rønne's article is based on 3,865 operations for squint at the Havnegade ophthalmologic clinic during the last forty years. He advocates an early operation believing that the sooner the parts are placed in an approximately normal condition the sooner normal restitution will occur, and the tabulated outcome in his cases seems to confirm the correctness of this view. None of the arguments against it has any weight, he declares. The early operations did not entail any greater liability to secondary strabismus in his experience. The operation was done on infants under a year old in twelve cases; under 2 years in forty-two; 3 years in 193; up to 4 years in 297; up to 5 years in 355, and up to 6 in 378. From 25 to 30 the operation was done in 130 cases; up to 40 in eighty-two, and up to 50 in sixteen.

Ugeskrift for Læger, Copenhagen

November 24, LXXII, No. 47, pp. 1441-1482

147 Local Anesthesia. C. Wessel. Commenced in No. 46.

December 1, No. 48, pp. 1483-1518

148 History of Arsenic Treatment of Syphilis. (Moderne antisyfilitisk Arsenikbehandlings Forhistorie.) E. Ehlers.
149 *Fatality After Injection of Salvarsan in Case of Paralytic Dementia. A. Jørgensen.
150 Preferable Technic for Gastroenterostomy. A. Pers.

December 8, No. 49, pp. 1519-1568

151 Hospitals in Greenland. (Sygehusforhold in Grønland.) Fischer-Nielsen.

149. **Fatality After Injection of Salvarsan.**—This seems to be the same case reported by Ehlers and summarized in The Journal, Nov. 26, 1910, page 1941.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Induced Cell-Reproduction and Cancer. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Cropper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

A Second Study of the Influence of Parental Alcoholism on the Physique and Ability of the Offspring. Eugenics Laboratory Memoirs. XIII. Being a Reply to Certain Medical Critics of the First Memoir and an Examination of the Rebutting Evidence Cited by Them. By Karl Pearson, F.R.S., and Ethel M. Elderton, Galton Research Scholar. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 35. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

Pellagra. By Dr. A. Marie, Physician to the Asylums, Department of the Seine, Paris, France. With Introductory Notes by Professor Lombroso. Authorized Translation from the French by C. H. Lavinder, M.D., Passed Assistant Surgeon U. S. P. H. and M.-H. Service, and J. W. Babcock, M.D., Physician and Superintendent State Hospital for the Insane, Columbia, S. C. Cloth. Price, $2.50. Pp. 434, with illustrations. Columbia: The State Co., 1910.

Acute Intestinal Toxemia in Infants. An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhea. By Ralph Vincent, M.D., Member of the Royal College of Physicians, London. An Address Delivered Before the Glasgow Obstetrical and Gynecologic Society on Nov. 23, 1910. Cloth. Price, 3 shillings 6 pence net. Pp. 83, with 17 illustrations. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1911.

Report and Appeal of the Governors of the Albany Hospital. For the Year Ending Oct. 1, 1910. Including the Reports of the Treasurer of the Hospital, the Treasurer of the Endowment Fund, the Superintendent of the Hospital, the List of Annual Contributors, the Medical and Surgical Staff and of the Albany Hospital Training School for Nurses. Paper. Pp. 55. Edmund N. Huyck, Secretary, 319 State Street, Albany, 1910.

The Determination of the Deterioration of Maize, with Incidental Reference to Pellagra. By O. F. Black and C. L. Alsberg, Chemical Biologists, Drug-Plant, Poisonous-Plant, Physiological, and Fermentation Investigations. Issued Dec. 16, 1910. Bull 199, Bureau of Plant Industry, U. S. Department of Agriculture. Paper. Pp. 36. Washington: Government Printing Office, 1910.

The Anatomic Histologic Processes of Bright's Disease and their Relation to the Functional Changes. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Cloth. Price, $5 net. Pp. 227, with 45 illustrations. Philadelphia: W. B. Saunders Co., 1910.

Three Contributions to the Sexual Theory. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

A Preliminary Study of Extreme Alcoholism in Adults. Eugenics Laboratory Memoirs. XIV. By Amy Barrington and Karl Pearson, F.R.S. With the Asistance of David Heron, D.Sc. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 55. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, 5 shillings. Pp. 77, with illustrations. London: H. K. Lewis, 136 Gower Street, W. C., 1911.

Transactions of the Eighth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. Washington, D. C. April 30, 1910. Public Health Bull. 40. P. H. and M.-H. S. of the United States. Paper. Pp. 101. Washington: Government Printing Office, 1910.

A Text-Book on Disease-Producing Microorganisms. Especially Intended for the use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

Bibliographic Contributions from the Lloyd Library, Cincinnati, Ohio. No. 1, January, 1911. Issued quarterly. Catalogue of the Periodical Literature in the Lloyd Library. By Miss Edith Wycoff, Assistant Librarian (in charge of the periodicals). Paper. Pp 80. Lloyd Library, 309 West Court Street, Cincinnati, Ohio.

Practical Bacteriology, Blood Work and Animal Parasitology. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co,, 1910.

A Manual of Dissection and Practical Anatomy of Head and Neck. For Students, Surgeons and Specialists. By Hubertus J. H. Hoeve, M.D., Professor of Anatomy in the Medical and Dental College of Drake University. Cloth. Price, $5. Pp. 598, with illustrations. H. J. H. Hoeve, Des Moines, Iowa, 1910.

Gynecologic Therapeutics. By S. Jervois Aarons, M.D., Gynecologist to St. Anthony's Hospital. With Foreword by Sir Halliday Croom, M.D., Professor of Midwifery in the University of Edinburgh. Cloth. Price, $2 net. Pp. 178, with 46 illustrations. New York: William Wood & Co., 1910.

The Treatment of Disease. A Manual of Practical Medicine. By Reynold Webb Wilcox, M.D., Consulting Physician to St. Mark's and to the Nassau Hospital. Third Edition. Cloth. Price, $7.50 net. Pp. 1023, with 11 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Nurses' Handbook of Drugs and Solutions. By Julia C. Stimson, R. N., Vassar A.B., Superintendent of Nurses, Harlem Hospital of Bellevue and Allied Hospitals, New York City. Cloth. Price, $1 net. Pp. 82. Boston: Whitcomb & Barrows, 1910.

Second Annual Report of the Committee on Prevention of Blindness of the New York Association for the Blind. Prevention of Blindness. No. 7. Nov. 1, 1910. Paper. Pp. 9. 105 East Twenty-Second Street, New York.

The Third Annual Report of the Commissioner of Health of the Commonwealth of Pennsylvania, 1908. Cloth. Pp. 1339. Samuel G. Dixon, Commissioner of Health, Harrisburg, Pa., 1909.

Studies in Invalid Occupation. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

History of the Liverpool Medical Institution in Special Relation to the Question of the Lease. By Thomas H. Bickerton. Paper. Pp. 39, with illustrations. 1910.

Report of the Commissioner of Education. For the Year Ended June 30, 1910. Vol. I. Cloth. Pp. 662. Washington: Government Printing Office, 1910.

A Study of Association in Insanity. By Grace Helen Kent, A.M., and A. J. Rosanoff, M.D., Kings Park State Hospital, N. Y. Paper. Pp. 142. 1910.

Design and Representation. A Handbook for Teachers. Paper. Pp. 34, with illustrations. New York State Educational Department, 1910.

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A REPORT OF SIX CASES OF COMPOSITE ODONTOMES*

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CHICAGO

My excuse, if any is necessary, for reporting these cases at this time is: first, their rarity; second, the fact that they are occasionally mistaken for malignant growths, and consequently large sections of jaws are removed, when, had correct diagnosis been made, no such unnecessary maiming and disfiguration would have resulted; and, third, my desire to add to those previously reported by others six exceptionally interesting specimens of odontomes of the composite variety and to record them where they may be easily accessible to medical men interested in this group of tumors. The first and second of these specimens were reported in the proceedings of the National Dental Association in 1902.

Odontomes are rare in man. They are more frequently found in the jaws of the horse and other animals, but when both those found in man and those found in animals are considered, the number is relatively small. Composite odontomes are most frequently found in the mandible, but are not to be excluded from the maxilla, since two of those in this report were from the upper jaw. They seem to belong to the molar region of the jaws.

Bland-Sutton[1] has given the best classification of odontomes. He has simplified the classification by naming them in accordance with the part of the tooth germ from which they are supposed to originate. In his seventh and last class he places the growths to be described in this report under the head of composite odontomes. His reason for naming them composite odontomes is the fact that they are composed of all of the histologic elements entering into the various tissues composing the teeth, thrown together indiscriminately.

The composite odontome, as indicated, is made up of enamel, dentine and cementum. These tissues may be thrown together in a more or less homogeneous mass, plus well-formed diminutive teeth, all united by cementum, easily made out macroscopically, or the formation may appear to the eye only as a conglomerate mass with no well-marked tooth forms. As will be seen from the illustrations, however, this simple, homogeneous mass, as observed by the unaided eye, is transformed by magnification in a complex tumor of regularly formed teeth with their roots and canals all cemented into a solid and compact body.

The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth or dentary bodies, in that the dentigerous cyst contains no cement *substance other than that which covers the root of the* individual tooth, when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the other; besides there is a well-defined cyst wall *and cyst fluid. In the composite odontomes there is no* cyst wall or cyst fluid, so far as I have been able to discover.

The origin of composite odontomes has not been fully *made out, but it is reasonable to attribute them to the* same source as that of multilocular cysts or adamantomas, that is, to unatrophied remains of the epithelial cord; or possibly to extra buds given off from the epithelial lamina, which have become distorted in development. Black attributes supernumerary teeth to additional buds, which buds he has demonstrated.

The diagnosis of odontomes is generally spoken of as difficult. If the growth is of the composite variety and has been uncovered through absorption of bone with suppuration of the soft tissues overlying, it may be and is often mistaken for necrosed bone, since the color and general appearance is very similar, but on close examination, by means of the sharp steel probe, the texture is found different, the odontome being of a denser structure, resisting penetration, while dead bone may be penetrated to a limited degree. In addition to this difference we find in all cases of necrosis of the jaws thickening of the overlying soft tissues with induration. These conditions do not accompany odontomes. It may also, when not exposed, as before indicated, simulate osteoma, likewise that peculiar thickening of bone sometimes found about infected pulpless roots of the molar teeth. It may be confused with sarcoma of the jaw or adamantoma. If the growth can be reached with the sharp steel probe, differentiation from the before-mentioned tumors may generally be made. The surest method of differentiation of odontomes fully covered by bone is by the aid of the skiagraph. The odontome, being of dense structure similar to that of the tooth, may be skiagraphed in the jaw, as are the roots of teeth. The history accompanying odontomes is of value in diagnosis. They are of slow growth, the enlargement of the jaw usually having been noticed months or even years before the case presented to the surgeon. Such slow growths would not be the case in sarcoma. The absence of pain before the growth reaches the surface also differentiates it from most malignant neoplasms.

CASE 1.—The remarkable growth shown in Figure 1 was removed by me from the right side of the lower jaw of a young man at my clinic at Northwestern University Dental School. Figure 2 shows the reverse side of this odontome. The history of this case, as given by Dr. Charles S. Leininger of Chicago, who brought the patient to the clinic, is as fol lows: "Patient, aged 19, came Oct. 7, 1900, for treatment for a supposed alveolar abscess, seemingly caused by a badly decayed right lower second molar. A large quantity of pus was drained off and the roots of the tooth removed two days later. The swelling of the gums disappeared shortly afterwards and the patient had no trouble until six weeks later. The patient showed at this time a condition similar to that when first seen, except for the absence of pus. I cut a considerable portion of the gum from the enlarged jaw and packed in borated gauze, expecting to find a third root, but in this I was disappointed. The opening I made relieved the patient of pain, but the enlargement gradually increased in size and extended buccally and distally. Two weeks after the incision in the gum was made patient returned with an acute inflammation of the part." When I first saw the patient the condition was as above described by Dr. Leininger. On probing with a sharp-pointed explorer I made out a hard, rough body, which gave the characteristic sensation received when tooth tissues are touched by an instrument. The body was too rough and large to indicate a tooth. The appearance of the gum and the discharge of pus, which was now present, indicated necrosis of bone, but the sensation communicated by the explorer clearly contradicted it. I at once concluded that an odontome was present. The first molar was in place, but loose from absorption of its roots, so was removed. The second molar had been removed by Dr. Leininger and the third molar was not yet erupted. The jaw was much enlarged buccally and lingually. I made an incision antero-posteriorly and raised flaps of gums on both sides, exposing the jaw and a portion of the growth to view. The overlying process was cut away. I found most of the bone absorbed on the buccal aspect of the jaw and but little left on the lingual surface. With drills and cross-cut fissure burs I cut away the bone on the buccal side of the growth and also a part of that left on the lingual aspect, when the tumor, with some difficulty, was pried from its bed and removed, after which I found posteriorly at the bottom of the cavity the third molar, seemingly perfectly developed. This odontome is the most remarkable one I have ever seen. It is composed of diminutive teeth (*Fig. 3*), more or less perfectly developed, of the incisor, cuspid and bicuspid types, with large numbers of denticles and enamel drops cemented together within this oblong, crescentic mass. This odontome measures antero-posteriorly 34 mm., bucco-lingually 18 mm., and from above downward 19 mm.

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* Chairman's address before the Section on Stomatology of the American Medical Association at the Sixty-First Annual Session, held at St. Louis, June, 1910.

[1] Bland-Sutton: Tumors, Innocent and Malignant.

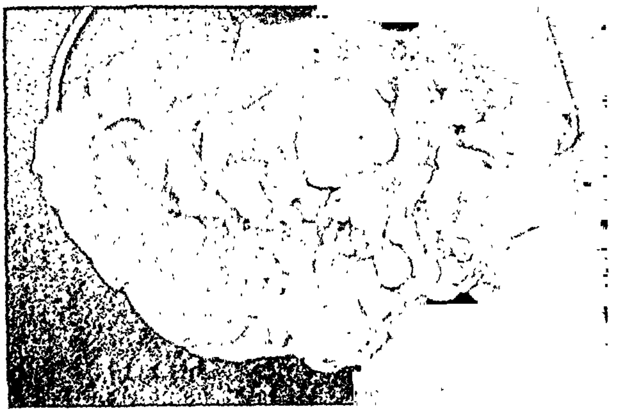

Fig. 1.—Composite odontome.

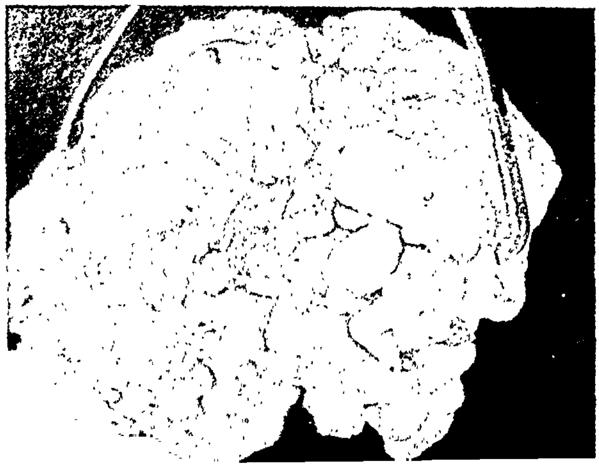

Fig. 2.—Reverse side of odontome shown in Figure 1.

Case 2.—Figure 4 shows an odontome removed by me from the upper jaw of a patient aged 20. All the teeth were in place except the second molar. The first molar was loose from absorption of the roots, caused by pressure of the odontome. The patient was quite sure that very recently he had had the second molar removed, but I saw no positive indication of this. This is the only one of my three cases in which I lack positive evidence of the presence of the three molars, as well as all of the normal set of teeth on the side of the jaw in which the odontome was found. This case was sent to my clinic by a practitioner for an operation for necrosis, the odontome having been mistaken for a sequestrum of bone, which was not surprising, since the body had the characteristic brown color of necrosed bone, and there was much swelling and a flow of pus. On probing the mass with a sharp steel instrument, I readily discovered that I was not dealing with dead

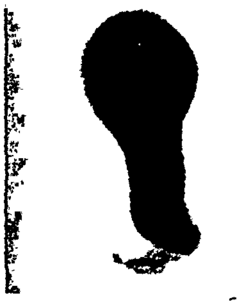

Fig. 3.

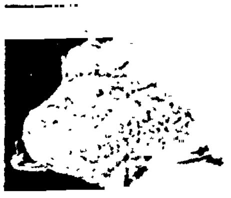

Fig. 5.

Fig. 3.—Diminutive tooth from odontome shown in Figure 1 magnified.

Fig. 5.—Odontome from lower jaw of woman aged 22.

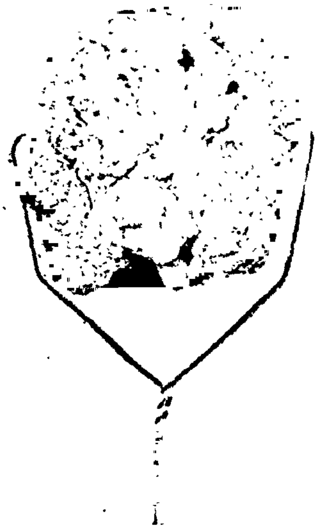

Fig. 4.—Composite odontome which microscopically shows *no* tooth formation.

bone, but with tooth tissues, so made diagnosis of an odontome. The jaw was much expanded buccally and somewhat lingually, causing considerable disfigurement of the face. The loose first molar was removed and the growth removed, but not until much bone was cut from about it. Above and posterior to the growth, in the socket from which it was removed, was found the third molar, perfectly formed. This growth is spherical in form, with an irregular surface, caused by the protuberances. It measures in its greatest diameter 28 mm. and in its least 22 mm. It differs from No. 1 in that there are no definite tooth forms visible, but enamel, dentin and cement irregularly placed; therefore it belongs to the third class.

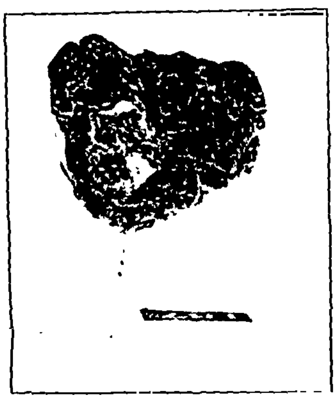

Fig. 6.

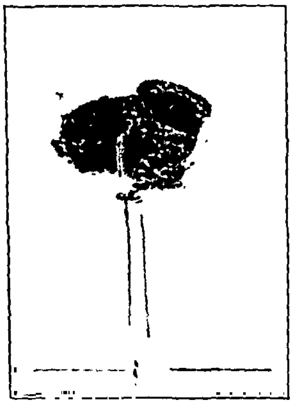

Fig. 7.

Fig. 6.—Odontome with structure similar to those shown in Figures 4 and 5.

Fig. 7.—Odontome of which history is given in Case 5.

Case 3.—Figure 5 shows an odontome from the lower jaw of a young woman aged 22. She consulted me for an enlargement of the left side of the mandible. The bone was much distended bucco-lingually in the region of the first and second molars. These teeth were quite loose and a small amount of pus was discharging at the gingival border of the gums about them. The enlargement had first been noticed two years before she visited me. At no time had there been pain, but for several months past there had been soreness of the teeth and gums overlying the growth. On passing a sharp steel probe in the interproximal space I discovered a hard substance which was rough and too dense to be bone; diagnosis, odontome. I removed the loose teeth and found their roots almost wholly absorbed. I cut the process away and removed the odontome which measured in its greatest diameter (anterior to posterior) 25.2 mm.; above downward 22.4 mm.; labially-buccally 18.4 mm.

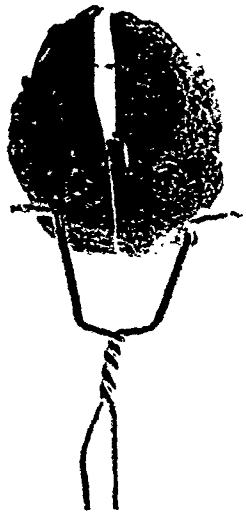

Fig. 8.—Odontome from which sections shown in Figures 9 and 10 were cut.

Case 4.—This odontome (Fig. 6) was removed by Dr. Herbert A. Potts of Chicago from the lower jaw of an 18-year-old girl in the clinic of Geheimrat A. Bier, Bonn, Germany. The patient had noticed a swelling and soreness of right side of jaw three years before: this was followed by discharge of pus into the mouth with exposure of a hard, irregular mass in the region of second molar, right side. Pus continued to discharge around this mass. The clinical diagnosis was necrosis of jaw with large sequestrum. Extensive operation from without was proposed. Closer examination by Dr. H. A. Potts revealed small nodules of enamel on the tumor and a corrected diagnosis of odontome was made. A small incision was made within the mouth. This allowed the tumor to be lifted out. Decalcification and microscopic section confirmed the diagnosis of composite odontome. The patient made an uninterrupted recovery.

Case 5.—This odontome (Fig. 7) and history was given to me by Dr. Victor H. Fuqua. "Miss Mary M., aged 19, came under my observation Feb. 14, 1903. Examination disclosed swelling of the left cheek. There was an offensive discharge from the nostril. On examination of the teeth was found what I suppose was the buccal roots of the first molar (the second molar evidently having been lost, or never having erupted). This tooth being very loose, I attempted to extract it, but was unable to do so. Nitrous oxid was then administered, the gum cut away freely, and the flaps laid back, disclosing a dense movable body, which, with difficulty, I removed with the forceps, exposing the floor of the antrum of Highmore. The antrum was cleansed, irrigated and packed with iodoform gauze. Recovery was rapid and complete. Since the removal of this odontome, the third molar has erupted."

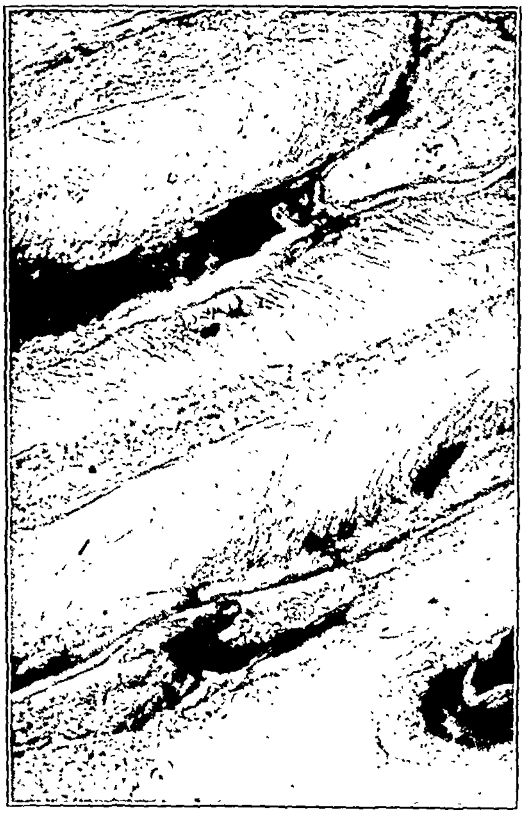

Fig. 9.—Section cut from odontome shown in Figure 8.

Case 6.—Figure 8 shows another of the third class. This case was reported by Dr. Black to the Illinois State Dental Society in 1879. It is a somewhat smaller growth, measuring 24 mm. from before backward, 20 mm. from side to side, and

14 mm. from above downward. From sections of the tumor Dr. F. B. Noyes has made photomicrographs, which show most beautifully and perfectly the characteristic composition of this class of odontomes. In the report to the Illinois Society Dr. Black said of the histologic appearance of the sections: "For the purpose of examining its structure I sawed it through, halving it in an antero-postero-perpendicular direction, and cut some sections. I found all the tissues of a normally developed tooth, but in a state of confusion (Figs. 9 and 10). There is an entire absence of any proper pulp cavity. The disposition or arrangement of the tissues is peculiar and striking. It is as though there were a thousand teeth, exceedingly minute, growing as close together as they could be crowded, and the interstices between them filled up with enamel and cement. In the field of the microscope, with the sections I have, we shall often be able to see a number of these diminutive teeth at a single view. Each has its own little pulp chamber in due form, its own separate dentin and its own enamel cap, and plastered in and about and added on to these there is a considerable amount of both enamel and cement of very irregular formation. Many of the pulp chambers are partially filled with calcospherites. These also appear in many parts of the specimen in profusion. It is interesting to note the resemblance of this odontome to the normal structure of the teeth of some of the lower orders of animals, especially some species of fishes, in which there are branching and radiating pulp cavities."

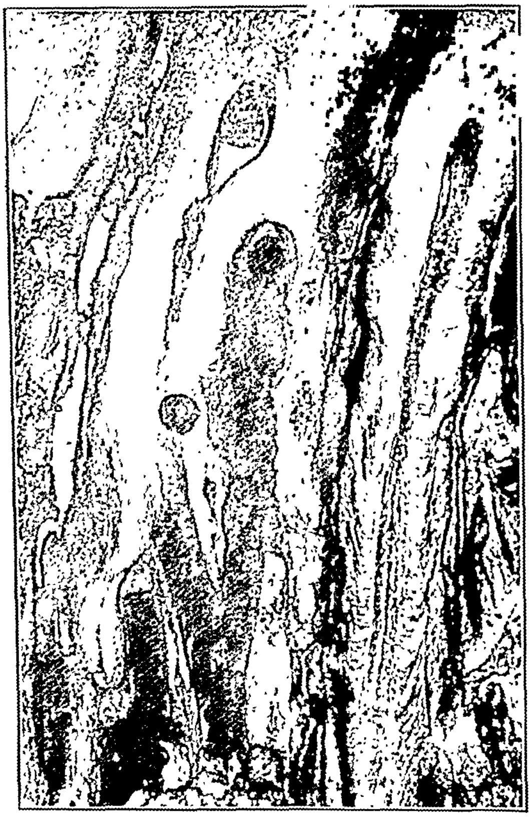

Fig. 10.—Section from odontome shown in Figure 8.

31 Washington Street.

ABSTRACT OF DISCUSSION

Dr. M. H. Fletcher, Cincinnati: I have never seen such large odontomas as Dr. Gilmer has shown without attachments. It only indicates what Nature will do when she is stimulated to action. This conglomerate mass is simply an instance of Nature's attempt to produce a new organ, as is shown in any new growth, such as carcinoma, sarcoma and various epitheliomas, which are proliferations, in a sense, of the tissue from which they arise. They grow to a size which becomes pathologic. In the case of the odontoma you do not have the bad results that often occur with malignant growths. At the same time we have evidence of tissue stimulation resulting in dentine, enamel, and cementum many times resulting badly. On the other hand, surgeons often are able to utilize Nature's method of procedure to the end of saving life. I expect to show in a paper at this meeting the reproduction of cement on the root of a tooth to a remarkable degree. Among others I shall show a section of an odontoma that I found twenty-five years ago, which shows what stimulation of any reproductive tissue will do.

Dr. Frederick Noyes, Chicago: I want to say a word about the histologic structure of these tumors and compare the different kinds that have come under my observation. Some are very loosely put together. There are hundreds of teeth that can be seen on the surface with the unaided eye, and a great many of those wash out with the soft tissues attached to the tumor and are lost in the preparation of the specimen. That one little tooth shown was one saved out of the sink in which the washing occurred, and on it the distribution of dentine, cementum and enamel is apparently normal. In other specimens you cannot distinguish a tooth at all, but you can see little globules of enamel on the surface and portions can be recognized as dentine and cementum. But when the section is cut, ground and examined, there are different canals from which the tubules radiate, and the adjoining teeth are fastened together by cementum. The whole structure is made up of individual teeth of one form or another, fastened together by a greater or less amount of cementum. I have never seen a specimen fixed and decalcified to show the cellular elements. I should be much interested to see one. If a piece could be cut out at once, decalcified and cut so as to determine the relation of the soft tissues to the hard it would be very valuable.

Dr. James E. Power, Providence, R. I.: I should like Dr. Gilmer to go into the clinical manifestations. What causes the patient first to seek relief? How much pain is connected with this condition, especially the odontoma that he reported? Was it surrounded by an alveolar process, and how much lymphatic involvement is connected with that condition? Also, especially in the lower jaw, how much loss of function was there, and what are the principal facts which would enable a clinician to make the diagnosis? What would first bring the patient to the specialist's office? There are some tumors that will develop to a large size without giving the patient much pain, and I am trying to find out whether or not the odontoma is in that class, or whether it is a chronic inflammatory process, without marked symptoms.

Dr. Eugene Talbot, Chicago: More than thirty years ago it occurred to me that there must be a law governing these conditions, just as there are other laws governing disease, etc. I have given considerable study during the last thirty years to the etiology of these obscure diseases of the face and jaws, and I have tried to lay out a law governing their pathologic development. Here we have a splendid illustration of two conditions in the development of man which must be taken into consideration, first in the arrest of development or shortening of the jaw in phylogeny from the lower vertebrates such as fish, reptiles, etc. In these animals we have, of course, long jaws with a large number of teeth; sometimes as many as three or four hundred, and as we ascend the scale in evolution the number of teeth grows smaller and smaller. In the toothed birds we have sometimes 170, but as we ascend the scale they diminish in number. On the other hand, the human jaw has grown much smaller, and is still growing smaller. I have found many of these conditions are what might be called arrest in phylogeny, and this arrest takes place at the first uterine period of stress, when the tissues are forming. Arrest takes place owing to some condition of the mother in which the reproductive organs become tired out, and this produces arrest at phylogenetic stages, and so here we see in this epithelial cord these bodies that remain throughout life. We find in the human being, in sheep, and in many other lower animals this large collection of teeth as a result of arrest in phylogeny. There may be two or three hundred, or no more than two or three teeth.

DR. T. L. GILMER, Chicago: I was aware that this was not a subject that would call forth much discussion, but think it one that interests most of us. It is well to have as many of these cases reported as possible that we may become more familiar with them.

I will answer by saying that in all of my cases there was inflammation and pain of greater or less degree in the area involved. The soft tissues overlying have not had the appearance of those overlying necrosed bone. They are more like those accompanying chronic alveolar abscess. There is no great thickening, or hardening of the soft parts. One patient came for two reasons—first, cosmetic considerations; the face was distended in the side affected, and second, the teeth whose roots had been absorbed were loose, and there was more or less discomfort, pain and discharge of pus. I have not found lymphatic involvement. No great amount of pus is absorbed, therefore the lymphatics are not appreciably enlarged. As to loss of function, I suppose Dr. Power had reference to loss of function of the jaw. The diseased area is more localized, with much less inflammation than is found accompanying severe, acute alveolar abscesses or with impacted third molars.

In none of my cases was there trismus. Sensation of the teeth or surrounding parts has not been destroyed. I have never seen a case prior to the inflammatory stage. The jaw was enlarged. Mention has been made of the slide showing what I denominated a tumor on the tooth root, in differentiation between it and an odontoma. It seems to me that an odontoma is a tumor made up of tooth substance or small teeth indiscriminately placed, while this specimen is clearly a tumor on the root of the tooth, or we might call it a malformed tooth. It appears to me as though there had been extrusion of a part of the tooth during development.

INFECTIONS OF THE ENDOMETRIUM *

WILLIAM S. GARDNER, M.D.
Professor of Gynecology, College of Physicians and Surgeons
BALTIMORE

All that is attempted in this paper is to describe the reactions of the various cells of the endometrium to infection. It is based on the study of a large number of endometriums known to be infected. From these a few have been selected to illustrate the typical cell changes. No distinction is made between the results of the various infecting organisms. No attempt is made at a classification.

Up to the present time, writers undertaking to describe the pathologic changes in the endometrium due to infection have constantly confused them with the physiologic changes that take place during the menstrual cycle. As these physiologic changes have been recognized too recently for the profession in general to be familiar with them, it is necessary to review briefly the histology of the normal endometrium before taking up the changes that are found as the result of infection.

NORMAL HISTOLOGY

The surface of the normal endometrium is covered with a single layer of low columnar epithelium. The glands are tubular and lined by the same variety of epithelium as is found on the surface. Between the glands are the oval stroma cells that make up the mass of the tissue. They are supported by a fine net-work of connective tissue and interspersed with a few round or lymphoid cells.

Just after menstruation the glands of the endometrium are collapsed, straight and narrow; the epithelium is low, regular, in a single layer, and the nucleus takes the stain evenly and deeply. The stroma cells are regular, oval in shape and stain well. Just around the glands are a few spindle-cells. Scattered through the stroma are a few small, round cells that stain very deeply. Occasionally a group of lymphoid cells are seen. These groups can be easily recognized by the compactness and regularity of the outline of the boundary of each group. Before attempting to recognize the results of infection in the endometrium, it is absolutely essential for the observer to familiarize himself with these scattered, round cells and the groups of lymphoid cells. Individually they cannot be distinguished from the small, round cells that appear in such great numbers as a result of infection. It is a case of distinguishing between a corporal's guard and an army.

Just before menstruation the glands are found distended with mucus and very irregular in outline; but there is a certain amount of uniformity in the irregularity seen in the glands, that is, all the glands in the same portion of the endometrium have a similar appearance. A part of the irregularity is only apparent and not actual, and is due to the swelling of the epithelium lining the glands and its projection in tufts into the caliber of the glands. The stroma cells are enlarged, more rounded and take the stain less deeply. This change in the stroma-cells is more marked in the superficial portion of the endometrium. There is some, though no very great, increase in the round cells in the stroma.

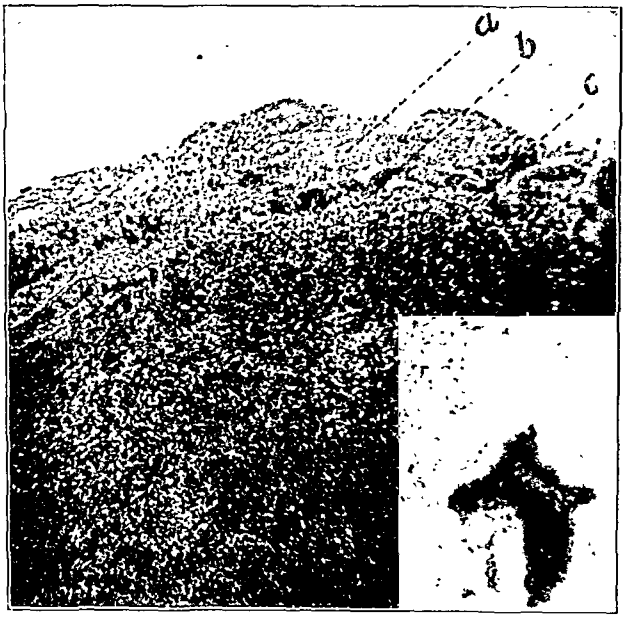

Fig. 1.—Section 874; M. E., aged 25, admitted to the hospital June 25, 1909; had had two miscarriages, the last one year ago. Last menses began June 14 and flowed ten days, bleeding very freely. She complained on admission of menorrhagia, profuse vaginal discharge, frequent micturition and pelvic pain. There was present an acute salpingitis. This field shows: *a*, an exudate over the superficial epithelium; *b*, superficial epithelium disintegrating; *c*, masses of round cells in the stroma.

In the interval there is a gradual change from the postmenstrual to the premenstrual type.

PATHOLOGIC HISTOLOGY

The changes due to infection are noted in the superficial epithelium, *in the stroma and in the glands.*

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Superficial Epithelium.—Under the influence of infection the superficial epithelium undergoes marked changes. The nuclei increase in size, become rounded, take less stain and present a granular appearance (Figs. 2 and 3). The cytoplasm disappears. A portion of the cells break down and disappear (Fig. 3). Round cells penetrate the epithelial layer and are lost in the uterine cavity (Fig.2). A fibrinous exudate

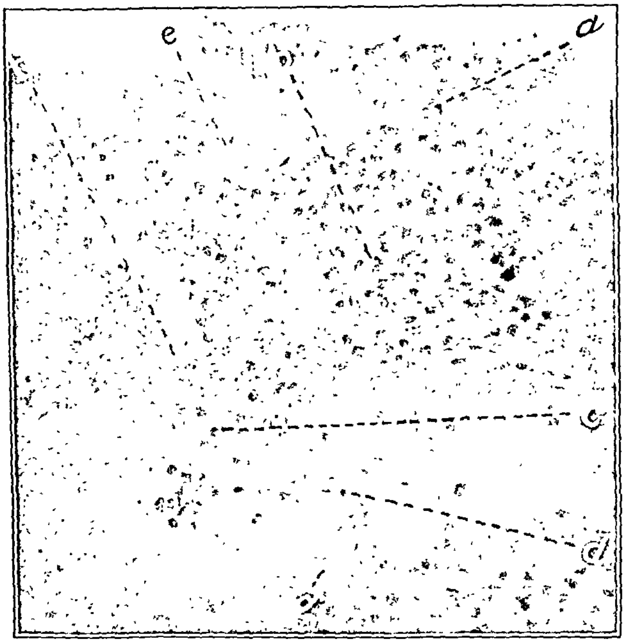

Fig 2.—Section 836a, J. W., aged 20, admitted to the hospital May 5, 1909; had a miscarriage August, 1908. Last menses began April 20, and flowed thirteen days; since miscarriage the flow has recurred at regular intervals but has continued from ten to thirteen days. Patient had pelvic pain since August, 1908. Operation, May 7, 1909; curettement, infected tubes removed and uterus suspended. Infection probably dates from the time of the miscarriage. The field of illustration shows: *a*, round cells penetrating the superficial epithelium; *b*, round cells in the stroma; *c*, round cells penetrating the gland epithelium; *d*, round cells free in the lumen of the gland; *c*, the superficial epithelium has lost its columnar form, is rounded and swollen; *f*, the stroma cells are enlarged, rounded and approach the decidual type; *g*, the gland epithelium has lost its distinct shape and is beginning to disintegrate.

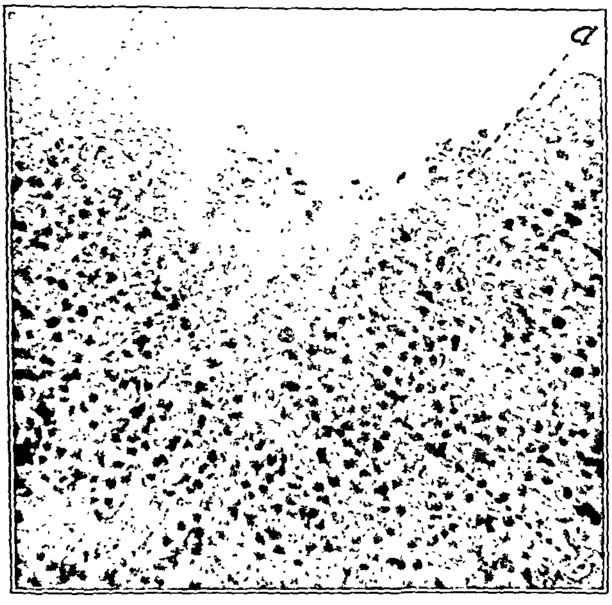

Fig. 3.—Section 836a (See clinical note to Fig. 2). This picture is from another field in the same section from which Figure 2 was made. It shows: *a*, the superficial epithelium is swollen and is breaking down; *b*, many round cells infiltrated among the enlarged stroma cells. The changes noted in these two figures were most marked in the superficial portion of the endometrium. In the deeper layers there was a very marked increase in the round-cell infiltration, but the glands were not materially affected.

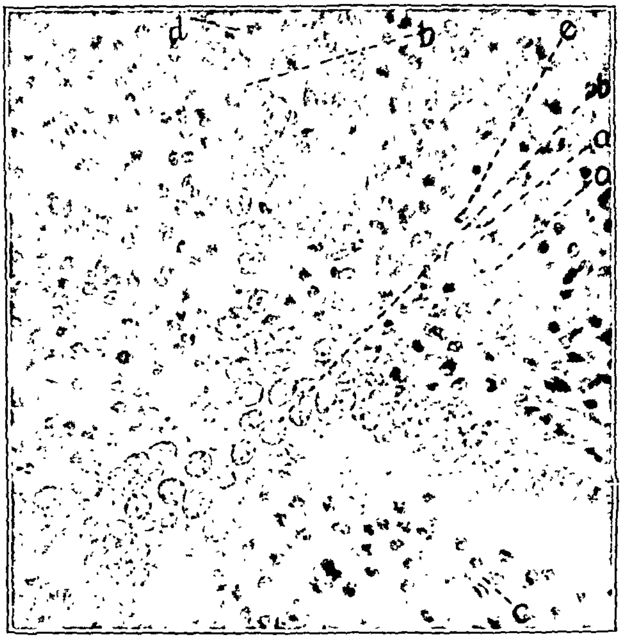

Fig. 4.—Section 872a; D. B., aged 36, admitted to the hospital June 19, 1909. Last pregnancy terminated at full term three years ago. Last menses two weeks ago, flowed seven days and very painful. Patient complains of pelvic pain and uterine hemorrhage; temperature after admission ranged from 99.5 to 101. Operation June 25, 1909; body of uterus and appendages removed. The tubes showed acute infection with much pus. This field shows: *a*, enlarged rounded stroma cells; *b*, enlarged and rounded gland epithelial cells; *c*, gland filled with round cells, leukocytes and broken-down epithelium; *d*, round cells penetrating the gland epithelium; c, round cells in the stroma.

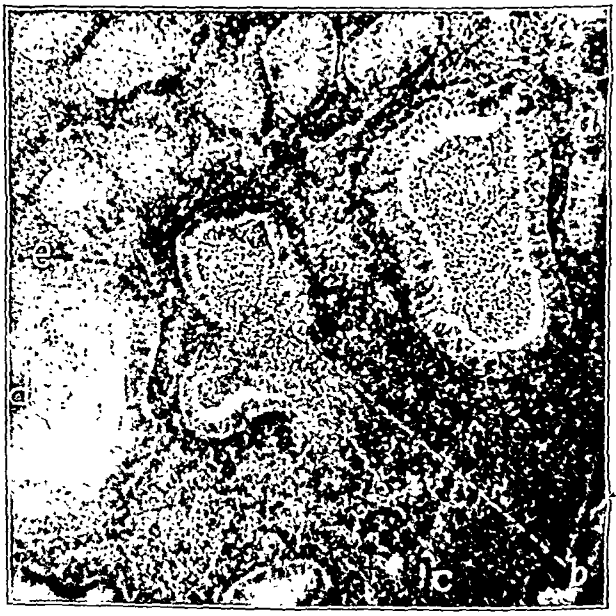

Fig. 5.—Section 431; J. E. M., aged 48, admitted to the hospital September, 1906. This patient was curetted in July, 1905, for the relief of a menorrhagia and leukorrhea that had persisted two years. The section from which the illustration was made is from the scrapings removed in September, 1906. The uterus at that time was not enlarged, was freely movable, and in normal position; the tubes and ovaries were normal. This field shows: *a*, gland filled with round cells and leukocytes; *b*, gland epithelium broken and round cells pouring into the lumen of the gland; *c*, masses of round cells in the stroma; *d*, irregular-shaped, dilated gland; *c*, heavy type of gland epithelium.

is occasionally observed, poured out over the epithelium (Fig. 1).

Stroma.—In the acute cases the first thing that strikes the observer is the extraordinary number of small, darkly staining round cells present. They cannot be distinguished individually from the same sort of cells that are present normally in the endometrium, but, instead of being scattered here and there, or collected in groups with definite outlines, they are diffused in great numbers throughout large areas (Figs. 1, 2, 3, 4, 5).

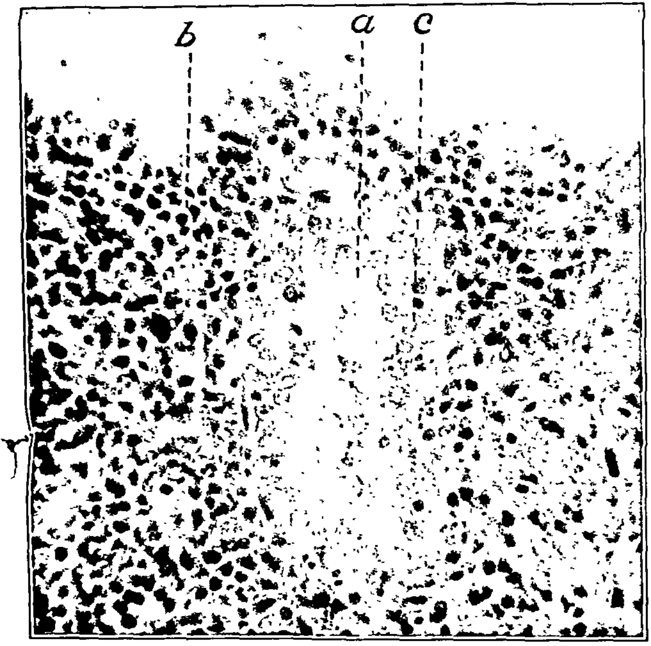

Fig. 6.—Section 846b; G. K., aged 30; admitted to the hospital May 13, 1909. Last menses began April 25, flowed seven days, regular, duration seven or eight days; *leukorrhea for the past year;* pelvic pain for the past five years, but suddenly increased two weeks ago. Operation May 18; supravaginal hysterectomy for *infected uterus and appendages.* Pus in both tubes and ovaries infected. The field here pictured shows the process of gland destruction: *a,* lumen of gland filled with disintegrating epithelium; *b, round cells massed just outside of the gland; c,* gland epithelium so modified that it can be recognized as such only by its position.

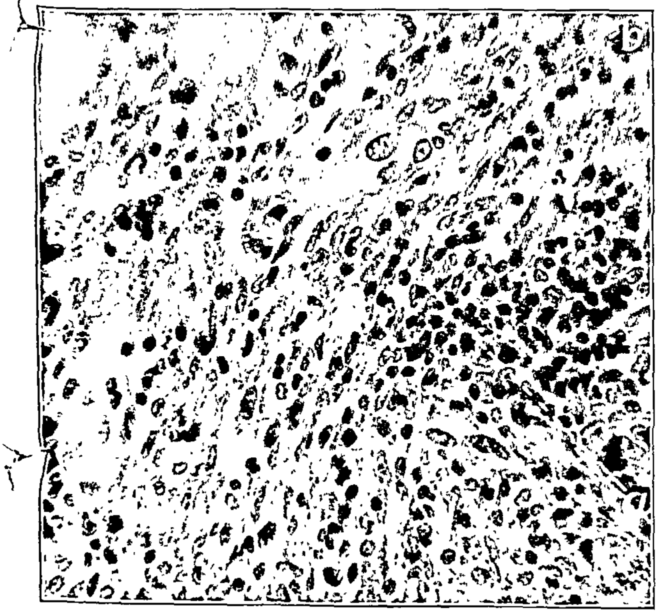

Fig. 7.—Section 846b. (For clinical notes see Fig. 6). This field shows: *a,* masses of round cells in the stroma; *b,* nearly all the stroma-cells have become spindle-shaped. These two fields from the same section show in the superficial layer (Fig. 6) a process that we recognize as an acute or recent one, while at about the middle of the depth of the endometrium (Fig. 7) are changes that are due to an older process. It is interesting to note that the clinical history indicates both a recent and an old infection.

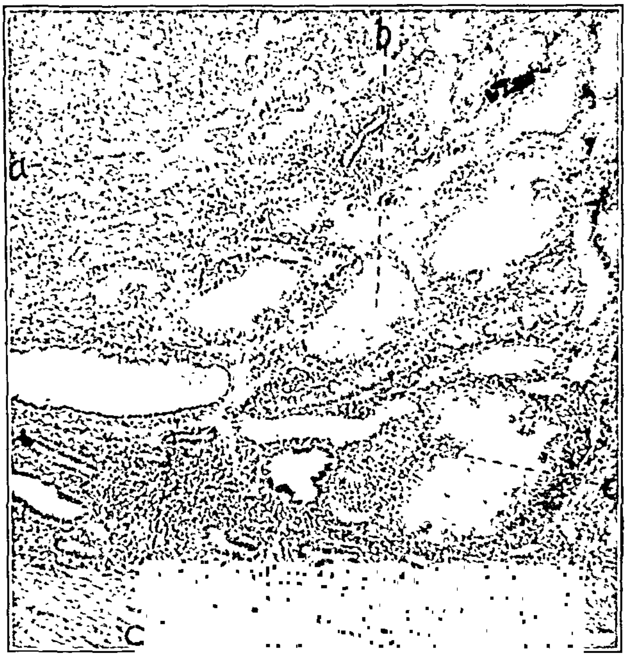

Fig. 8.—Section 662b: B. K., aged 29. Last pregnancy ended at full term seven years ago; last menses Jan. 18, 1908, scanty, *irregular and painful. Patient had symptoms of an infection six* years ago; cystitis three years ago. Operation Feb. 14, 1908; supravaginal hysterectomy for infected uterus and appendages. This field shows: *a, glands in the upper layer of the endometrium,* numerous, small and irregular in outline; *b,* glands in the deeper portion of the endometrium much dilated; *c,* gland epithelium *consists of a single layer and much lower than usual; d,* gland epithelium is tufted as it is in the glands of the premenstrual endometrium. Under a higher magnification the stroma is seen to be *made up largely of spindle-cells interspersed* with a few round cells.

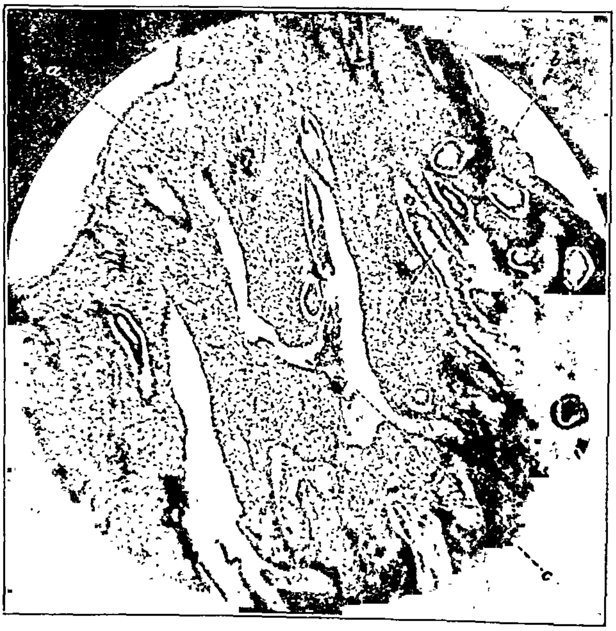

Fig. 9.—Section 688b; E. D., aged 27. One child born four years ago; last menses April 4, 1908, regular, flows three to five days, very painful. Patient has had pelvic pain, leukorrhea, dysmenorrhea and burning *micturition* since labor four years ago. Operation April 10, 1908; supravaginal hysterectomy for infected uterus and appendages. The tubes were full of pus. This field shows: *a,* glands in the *superficial part* of the endometrium contracted or absent; *b,* glands in the deeper part much dilated.

The first change that is noted in the stroma-cells is an increase in their size; they take the stain less deeply and have the appearance of the decidua-like cells so frequently seen in the premenstrual endometrium or under any condition of increased vascularity (Figs. 2, 4). As the process continues the stroma-cells elongate and become spindle-shaped. Among these spindle-cells are seen not so many round cells as in the beginning of the infection, but many more than normal (Fig. 7). If the infection continues these spindle-cells ultimately assume a fibroblastic type (Figs. 10, 11). In all cases these changes in the type of the stroma-cells are most marked at first in the superficial portion of the endometrium, but if the infection continues the entire thickness of the mucosa becomes involved.

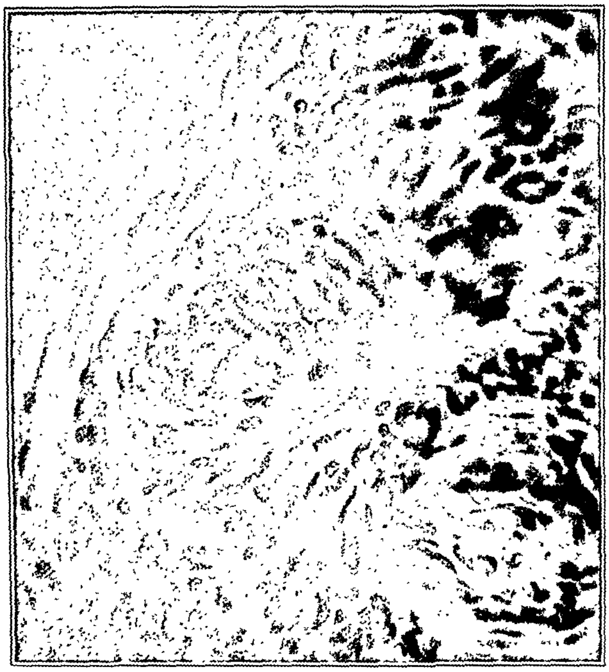

Fig. 10.—This is a higher magnification of the section shown in Figure 9. The field is about half way between the muscularis and the surface of the endometrium. There is an absence of cells that even resemble the normal stroma cells.

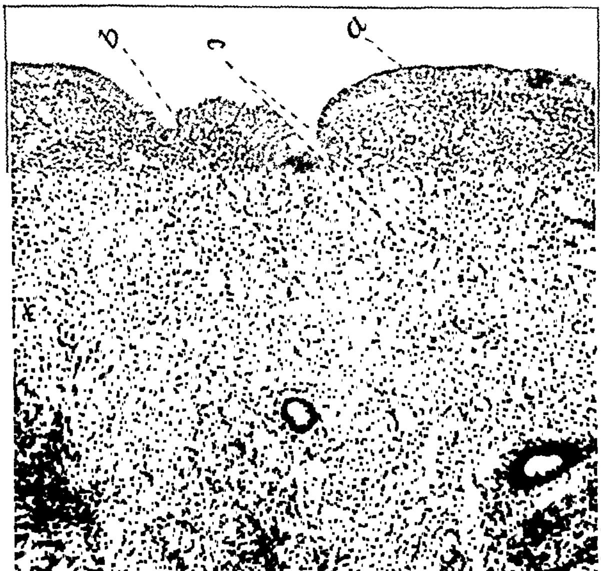

Fig. 11.—Section 799a: A. C., aged 47: admitted to the hospital Feb. 10, 1909. Last pregnancy terminated in a miscarriage eighteen years ago; last menses began January 7, and flowed sixteen days; up to three years ago menses were regular and the flow lasted seven or eight days, since then the periods have been irregular, painful and profuse. Operation Feb. 11, 1909; supravaginal hysterectomy. Associated lesions; uterine myoma, infected uterine wall, pyosalpinx, adenocystoma of the ovary. This field shows: *a*, superficial epithelium intact; *b*, almost entire absence of glands and the stroma cells are replaced by connective tissue; *c*, numerous blood-vessels. The remains of the endometrium is much thinner than the normal endometrium.

In many instances plasma-cells can be seen, but they are so difficult to distinguish from a round cell lying over a stroma-cell that it is not thought advisable to lay much stress on their presence.

Glands.—The changes in the glands include the changes in the epithelium, changes in the gland contents and changes in the number, shape and caliber of the glands.

The gland epithelium undergoes practically the same changes as have already been noted in the superficial epithelium, except that in the glands the process is much more frequently carried to the complete destruction of the epithelium and the consequent destruction of that part of the gland or glands involved (Figs. 6, 11, 12). Not infrequently epithelial cells will be seen which can be recognized as such by their relation to each other, but which taken individually cannot be distinguished from the modified stroma cells (decidua-like cells) found in the same field (Fig. 4).

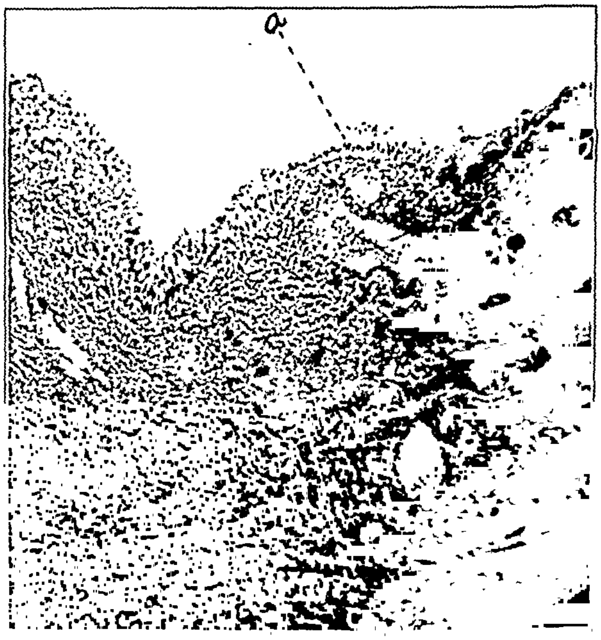

Fig. 12.—Section 680c: M. C., aged 49: last menses four years ago. First began to feel discomfort about one month before operation. This patient had an adenocarcinoma of the cervix that produced a complete atresia. The body of the uterus was larger than a man's fist and distended with pus. The section is shown to illustrate what happens to an endometrium in a pyometra: *a*, thinned out superficial epitheilum; *b*, the remains of a gland; *c*, all this area is densely infiltrated with round cells which are also present in large numbers in the muscularis; very few glands remain.

In many instances the glands become filled up with round cells, leukocytes and broken-down epithelium. The round cells and the leukocytes get into the gland either by penetrating the unbroken epithelium or by the local breaking down of the epithelium, allowing them to pour in (Figs. 4 and 5). This filling up of the glands does not take place in all of the glands of any infected endometrium, but when it is present it may be seen in from three to a dozen glands in a section. The migration of the round cells and leukocytes through the superficial and gland epithelium is undoubtedly the source of the intermenstrual discharge which has so long been recognized clinically as one of the signs of infection of the endometrium.

The foregoing are the marked changes that are noted as taking place during the time that the cells of the endometrium are subject to the influence of an infection. There are, no doubt, some patients who recover so completely that no trace of the past infection remains. On the other hand, in the group of cases studied in the course of the preparation of this paper it was found that in every case in which the clinical history and local lesions pointed to an infection, either existent or preexistent, there was some recognizable lesion in the endometrium. These secondary results no doubt vary with the severity of the past infection and are not perfectly constant, but some of a very few conditions are practically always present.

The superficial epithelium, even where it has been partially destroyed, apparently is reproduced and is present as a continuous single layer (Fig. 11). In the stroma the round cells decrease to their proper proportion and the stroma-cells return to their normal ovoid shape and size, or retain a spindle shape, or assume the fibroblastic type. The glands in the upper half of the endometrium are found to be either numerous, small and angular (Fig. 8), or much fewer than normal (Fig. 9). The glands of the deeper part are frequently much dilated (Figs. 8, 9). This dilatation is quite different from the dilatation of the glands in the premenstrual endometrium. In the endometrium, after infection, the dilatation is apparently due to retention from destruction of the portions of the glands passing through the superficial part of the endometrium. The lining epithelium of these distended glands is usually thinned out by compression. In other instances the infection has been so severe that all, or nearly all, of the glands have been destroyed (Figs. 11, 12).

From this study of endometriums known to be infected we are in a position to say, with a reasonable degree of accuracy, that an endometrium under examination either is infected or that it is not infected; and usually, if there is no evidence of a present infection, whether it has been infected.

It is useless to attempt a classification of the results of infection, because it is possible to find all stages of the reaction to infection in the same endometrium.

6 West Preston Street.

ABSTRACT OF DISCUSSION

Dr. Emil Novak, Baltimore: That the endometrium reacts toward acute infection in much the same way as does any other tissue cannot be impressed too strongly. A more interesting and difficult problem is that of chronic infection of the endometrium and of chronic endometritis. If we assume that the endometrium reacts in the same way to a chronic process as do other structures we would expect to find in such cases a certain number of small round cells, perhaps fibroblasts, etc.

The next question is, are all cases with these findings to be classed as chronic endometritis, or, to make it even broader, are all to be considered as chronic infections? We must bear in mind that we often find fibroses of the endometrium in conditions which are probably not of an infectious nature, as, for example, after prolonged passive hyperemia. Whether or not fibroid changes in the endometrium are to be called chronic endometritis is therefore often a difficult question. I do not think we can tell in every case. It is much the same problem as if an individual is found dead on the street. One cannot tell whether he died of apoplexy, of heart disease, or of something else. We see the result, but we do not know what brought it about. So, whether there has been merely a prolonged hyperemia or an actual infection, the terminal condition in the endometrium is apt to be the same.

Another interesting question in this connection is that of the avenues of infection of the adnexa in cases of general pelvic infection. Formerly it was believed that in many tubal infections the process reached the tube through the lymphatics rather than by direct continuity. It seems to me that this paper throws light on this subject. If it can be shown, as seems to have been done, that in practically every case of tubal infection in which the endometrium was examined microscopically evidences of infection were found, it would seem that the infection must have traveled to the tube by way of the endometrium.

PERFORATION OF UTERUS AND TRANSFIXION OF CONTIGUOUS MESENTERY AND PERITONEUM BY BONE CROCHET NEEDLE

OPERATION AND RECOVERY

E. GARD EDWARDS, M.D.
LA JUNTA, COLO.

History.—A married woman residing in a neighboring town, under the impression that she was very much in need of a monthly regulator, one evening on retiring passed into the uterus a bone crochet needle, the sharp end first, from which she had previously filed the hook-like projection. This important duty performed, she went peacefully to sleep. The next morning when she made search for the regulating apparatus it was not to be found. A hurried but careful search of the bed and the room failed to show the missing article. In spite of the fact that she felt no pain at any time after inserting the needle she was somewhat concerned as to what had happened to the instrument as well as to herself. After a few hours of disturbance of mind, she called in the family physician, who made a careful examination but had no better success in finding the needle than had his patient. The patient did not at this time, nor afterward, give any sign of having punctured the uterus. Only her tearful protestations that by no possibility could the instrument have passed away persuaded her physician that it must be somewhere in her internal economy.

Examination.—In order to satisfy himself and the patient, counsel was called and under anesthesia the uterus was dilated and explored but without result, either so far as finding the missing needle was concerned, or, incidentally, any signs of conception. The day afterward she was brought by train some 90 miles to my office for examination. Her condition at this time was, temperature 99, pulse 90, slight discharge from the uterus, marked tenderness on pressure and constant soreness, but no rigidity, over the left pelvic region. On the theory that, if the article was in the abdominal or pelvic cavity, being of bone it should cast a shadow in an *x*-ray picture, a radiograph was made. The patient's weight being 120 pounds, an 8-inch W-H tube was used, with penetration No. 7 plus, giving an exposure of two minutes, using a 12-inch coil as the exciting agent. The bowels had not moved for over twenty-four hours and owing to the presence of fecal matter the resulting radiograph was not satisfactory. The bowels were accordingly cleaned out with heavy doses of salts, followed the next morning by a high enema. At this time a two-minute exposure was given, using a 7-inch Friedlander tube with penetration No. 8, with the result that the bone implement was found transfixing the mesentery and peritoneum, with the middle of the needle approximately opposite the crest of the ileum, its depth in the pelvic cavity being of course a matter of conjecture.

As neither fever nor other serious symptoms had developed at this time, four days after the passage of the instrument, it was not deemed necessary to be in any great hurry to remove it, and the patient preferring to have the operation at her residence instead of at the hospital, she was sent home accompanied by a nurse.

Operation.—On the second day afterward she was operated on by a median abdominal incision. Immediately after opening the abdomen the needle was found as described above. It was removed, no hemorrhage following, by being grasped by the blunt end next the uterus and drawn downward. Examination of the uterus showed a punctured wound directly in the fundus, as near the center as it could possibly have been made. Two No. 1 iodin-catgut sutures were taken in the uterus to close this rent, and the abdomen closed with layers of catgut sutures. Convalescence was uneventful.

I am led to report this case because I believe it to be unique in several particulars:

First, the passage of such an instrument as is here shown through the uterus and the adjacent mesentery and peritoneum without producing pain, shock, hemorrhage or infection seems worthy of note.

Second, perforations of the uterus by instruments, even in skilled hands, is not a rare occurrence, but its perforation and the passage of the instrument through the uterus into the peritoneal cavity must certainly be.

Third, the case demonstrates the utility of the radiograph in clearing up what would have been, in the absence of subjective and objective symptoms, a puzzling case as to the proper method of procedure.

A CHRONIC ITCHING PAPULAR ERUPTION OF THE AXILLA, PUBES AND BREAST *

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Dr. George Henry Fox,[1] in 1902, described a peculiarly localized papular eruption in the axilla which was extremely itchy and resisted all treatment. In the same article Dr. Fordyce reported the histologic findings in Dr. Fox's case, but at this time no attempt was made by either to classify the condition.

In a subsequent article[2] before the thirty-second annual meeting of the American Dermatological Society in 1908, Dr. Fordyce called attention to the lack of weight given by the American dermatologists to a group of skin diseases classed by Dr. Brocq under the term "lichenification," reported more in detail, both clinically and histologically, an additional case, and tentatively classed it among those eruptions to which Brocq has given the name *nevrodermite chronique circonscrite.*

In reviewing this article, Dr. Colcott Fox,[3] after complimenting the author on his work, says: "We think many will hesitate to pronounce the condition a lichenification, as we know that state in this country."

It would seem from this that the British dermatologists, of whom Dr. Colcott Fox is one of the most painstaking clinicians and histologists, were as derelict as their American confrères in recognizing this identification of a class of skin diseases that assisted much in the simplification of the nomenclature of dermatology.

But Dr. Fordyce's classification has found a better reception in circles equally interested and no less critical, as I have seen a personal letter from Dr. Brocq to Dr. Fordyce, in which he entirely agrees with the latter that the affection in question is a lichenification and states that he has seen numerous similar cases in his practice. I have had under my observation for the past two years a case that is a clinical prototype of those reported by Drs. Fox and Fordyce.

History.—The patient is a young woman, aged 21, anemic and decidedly neurotic. Her family history is unimportant, her father having died at thirty-eight years of age of pneumonia. One brother died recently of pulmonary tuberculosis. Her mother, three sisters and two brothers are all in good health. Her past history is interesting in that she has had three distinct, severe attacks of hemoglobinuric fever at 12, 14 and 16 years of age. At 15 she contracted scabies, which lasted four or five weeks. From 14 to 17 years of age she suffered severely with periodical headaches, and the menses were not established until the latter year, and then appeared only at irregular intervals. The disease for which she consulted me began at 17 years of age while attending school, as an intense itching in the axillæ. In three or four weeks the papules appeared, and she then noticed that the hairs in that region became brittle, and as she expressed it, "dropped off." The pubes became affected four months later in a similar manner, and not until a year later did the breasts become involved.

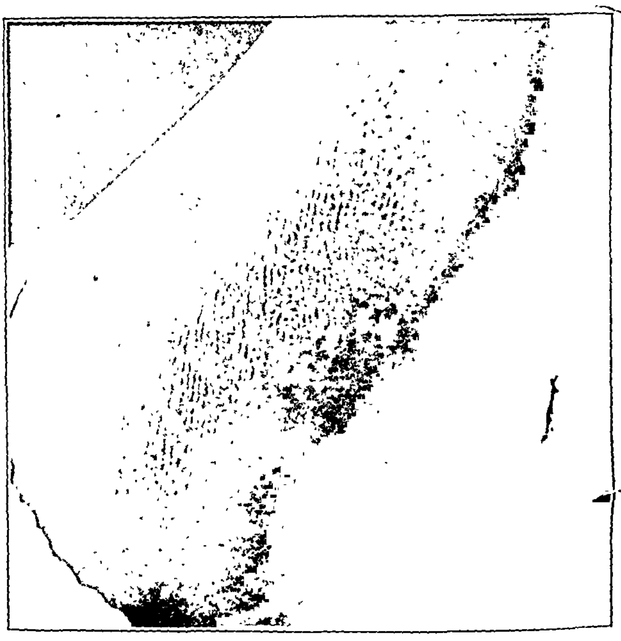

Fig. 1.—Papular eruption in axilla.

Examination.—When she came under my care, the disease was limited to the hairy portion of the axillæ and pubes, and about the nipples of the breasts. In the axillæ and over the pubes the eruption consisted of closely aggregated, round, smooth, firm papules, in size from a pin-head to a small pea, those in the pubic region being somewhat larger than in the axillæ. At the apex of each papule was a slight depression or a grayish plug. When the skin was put on a stretch the lines were markedly exaggerated, the papules occupying the ridge (Fig. 1). The color over the region affected was normal, or a pale pink. The lesions on the breasts were more discrete, there being not more than a dozen papules on either breast. These were deeper in color and about the size of a large pin-head. Alopecia was complete in the axilla and over the pubes. The itching was almost intolerable, frequently depriving the patient of sleep, and at times she would lose control of herself to the extent of having to be forcibly restrained by two of her sisters. It was always worse at night, and during and after any excitement, either pleasurable or otherwise. Re-

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Jour. Cutan. and Gen. Urin. Dis., January, 1902.
2. Am. Dermat. Soc., 1908, p. 118.
3. Brit. Jour. of Dermat., xxi, 269.

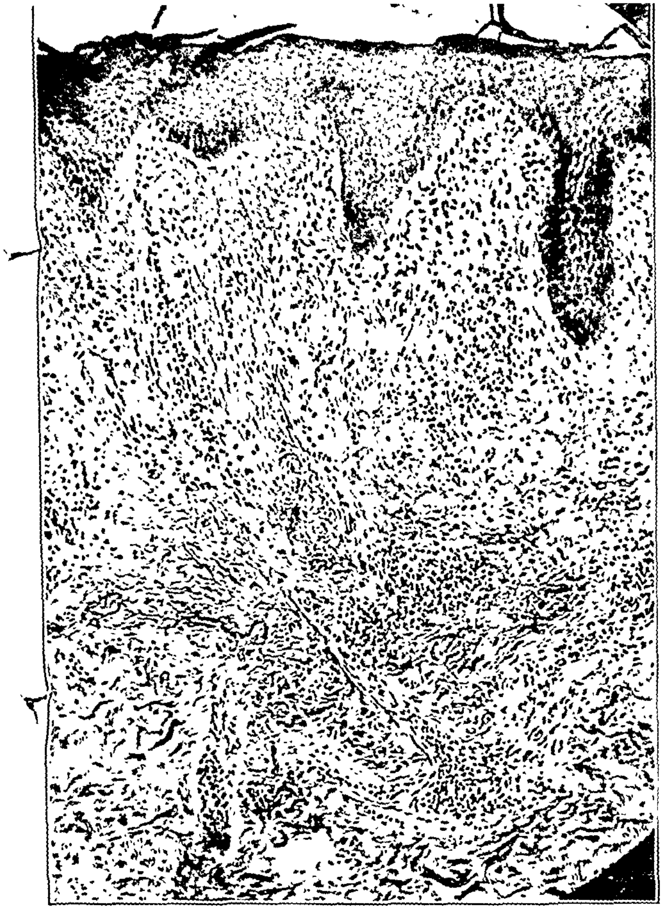

Fig 2.—Edema of papillary layer of corium. Elastic fibers destroyed or so changed in character that they do not take characteristic stain

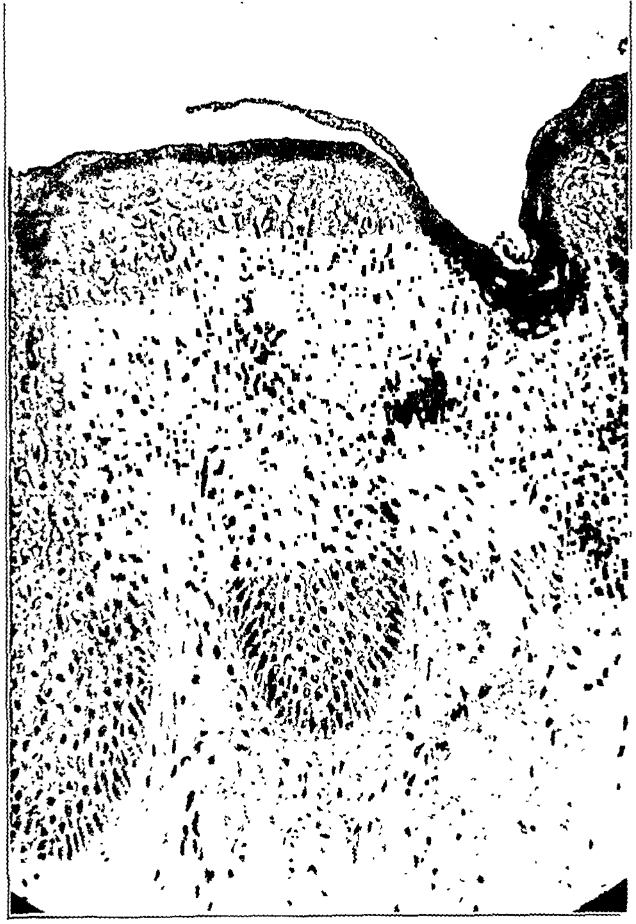

Fig. 3.—Destruction of the epidermal cells with vesicle formation.

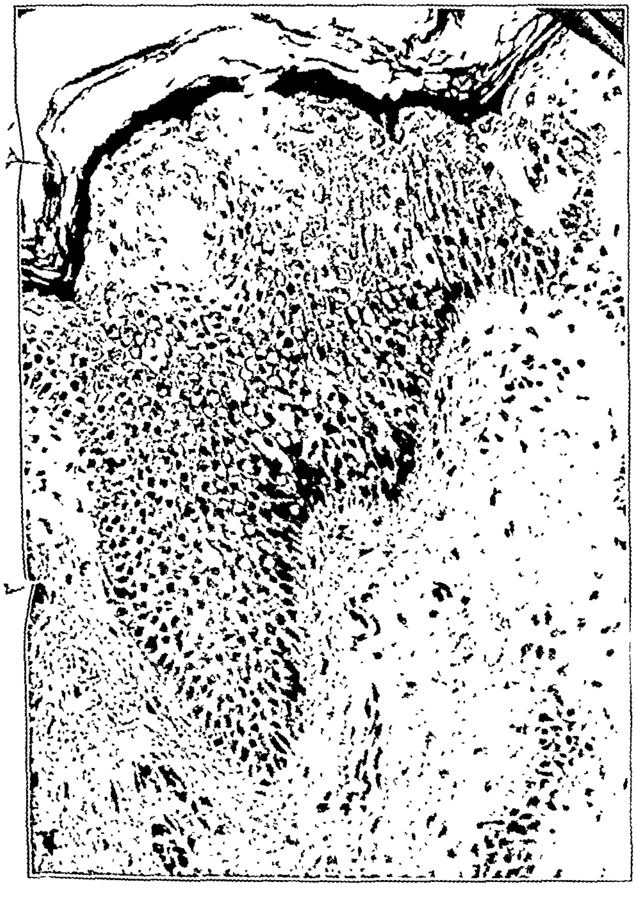

Fig 4.—Epidermis showing hyperkeratosis, vacuole formation about nuclei and edema of the corium

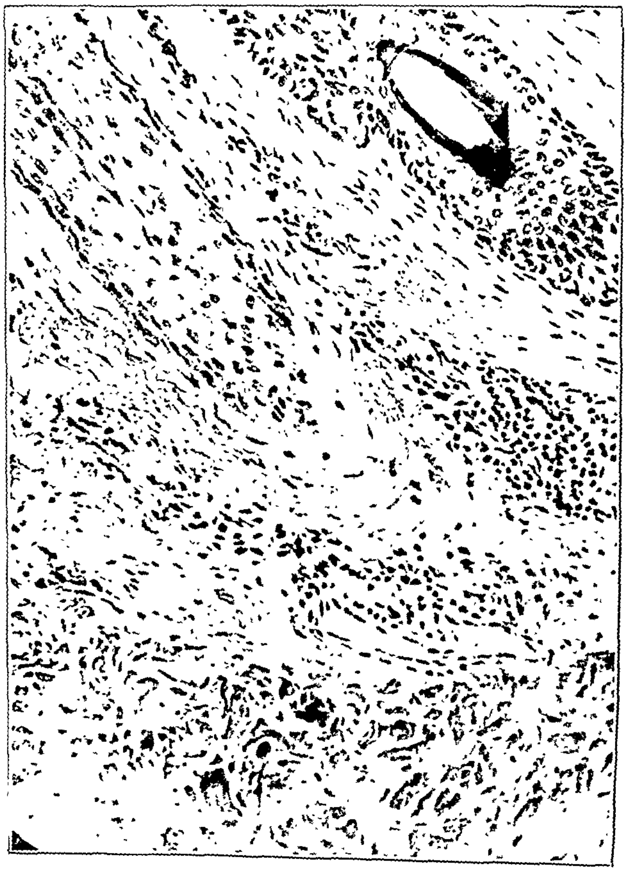

Fig 5.—Hair follicle and epidermal projection enclosing sweat-duct with degeneration of cells. Cellular infiltration in foci in corium.

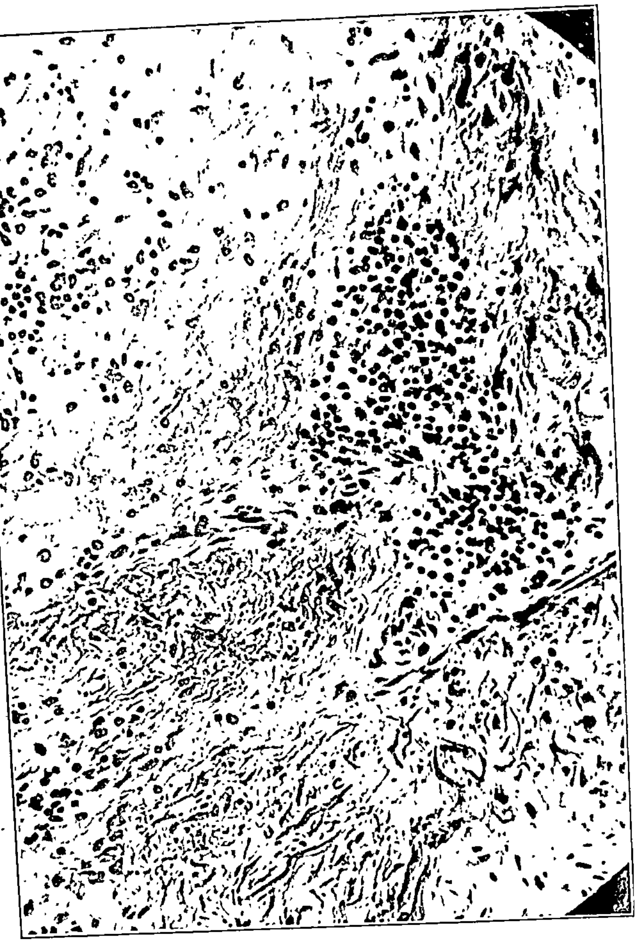

Fig. 6.—Character of cell infiltration in corium.

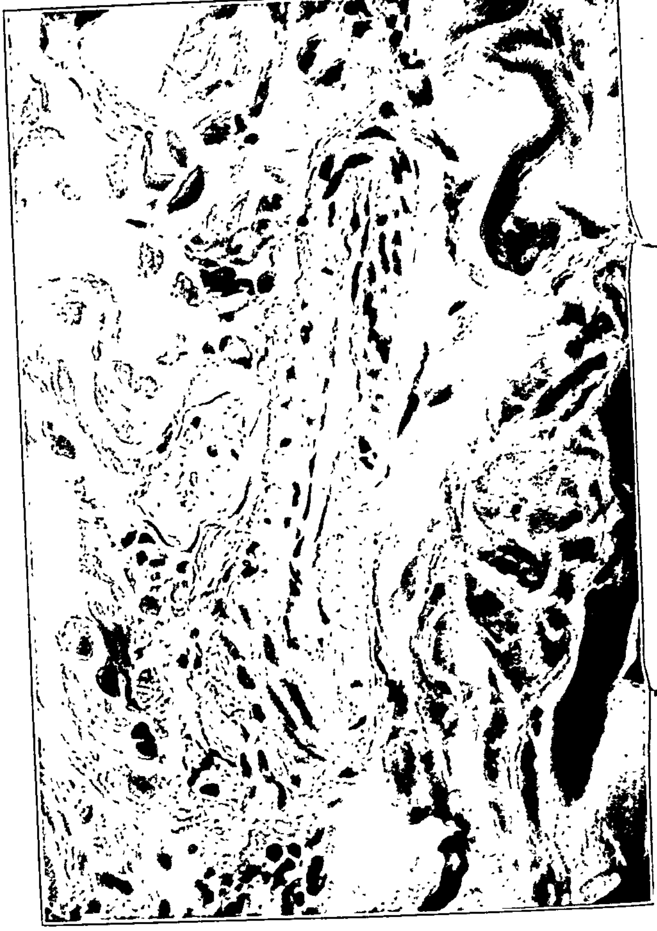

Fig. 7.—Hyaline degeneration of small artery in corium.

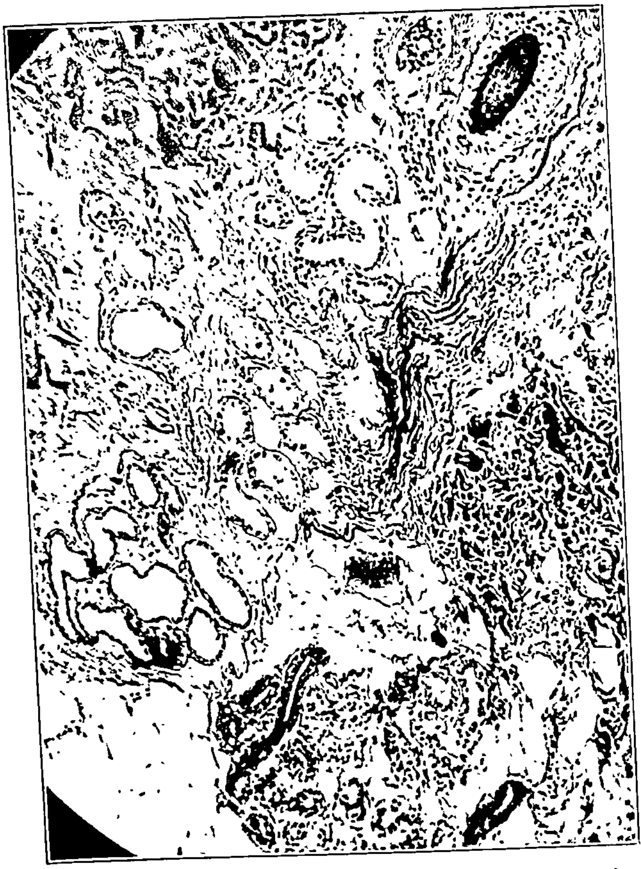

Fig. 8.—Degeneration of lining cells and dilatation of glands with adjacent apparently uninjured glands.

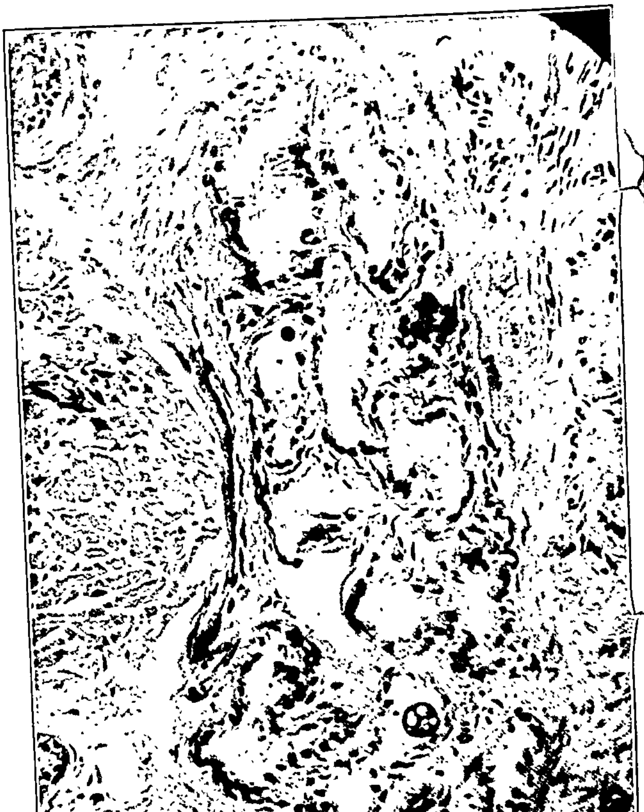

Fig. 9.—Dilatation of sweat glands showing partial casts. In two of the gland acini are concretions or bodies mentioned in text.

peated thorough examinations revealed no constitutional disturbance, blood and urine being negative.

Treatment.—Treatment in my case proved even less successful than in those previously reported. She was given innumerable antipruritics, with only temporary relief. Resorcin, pyrogallic acid, chrysarobin, and various tars, in increasing strength, were used, with no better results. The x-ray was very positively refused, but high-frequency currents were applied for over four weeks. Saline cathartics were administered for more than a month, as were salicin and phenyl salicylate, in increasing doses. In October, 1908, after she had been under my care for five months, the patient's condition became so deplorable that it was thought best to place her under the constant observation of nurses. For this purpose, she was sent to the Presbyterian Hospital, with a nurse in constant attendance. She was allowed from two to five hours outdoor exercise, all medication, both external and internal, having been stopped, except hot salt solutions applied to the diseased areas. Under this treatment she rested better, her mental condition improved and she gained some weight. When last seen, less than a month ago, the condition in the axilla and over the pubes showed little or no change. The papules were still present, the hair had not returned and the itching though less frequent was at times very annoying. The patient's mental condition had continued to improve, and she was devoting all her time to music and outdoor life. She still continued the use of the hot salt water packs.

Biopsy.—Sections made from a biopsy taken from the axillæ showed an extensive acanthosis, most marked about the sweat-duct, a dense hyperkeratosis at the mouth of the duct, in some instances extending deep into the duct proper. There was an extracellular and intracellular edema, with a shrinkage of the nuclei seen throughout the prickle cells, and in places small vesicles had formed. In the papillary and subpapillary layers of the corium, a marked degeneration and edema were found, and the elastic tissue in this region was so changed that it did not take the usual stains. An infiltration of lymphocytes and plasma cells was present in foci and about the vessels and sweat glands. A hyaline degeneration was seen in some of the arteries of the corium, with an atrophy of the nuclei of the wall, but by far the most marked change was the dilatation of the sweat-gland accompanied with a degeneration of the lining cells. In some of the tubules, there were partial casts, and in two there were found round concretions or bodies the nature of which is to me obscure.

The histologic picture in my case differed only in minor details from that reported by Dr. Fordyce; namely, the hyaline degeneration of the arteries and the changes in the staining quality of the elastic fibers.

In conclusion, it is apparent that Dr. Fordyce's contention is well grounded, and that as his conclusions are approved by Brocq, we may accept this peculiarly localized dermatosis as a lichenification, the etiology of which is still in doubt.

If one might hazard a guess at the cycle of histologic changes occurring in the development of the disease, I would suggest that the pathologic condition began in the sweat-glands, with a morbid change in the lining cells, followed by a destruction of the cells and a dilatation of the gland proper, and that all other changes demonstrated were secondary to this process, and due to the elimination of a toxin yet unknown.

Memphis Trust Building.

ABSTRACT OF DISCUSSION

DR. J. A. FORDYCE, New York: Through the kindness of Dr. George H. Fox of New York I saw a third case of this affection in which the eruption occurred in the identical localities, and I have had personal communications with other physicians who have described similar cases. These observations might lead one to think that we have at least a distinct clinical picture if not a definite entity. As supporting the toxic origin of such a condition, we see on other parts of the skin purplish thickened patches made up of papules which have run together and which occur in individuals who are suffering from some toxemia. This toxemia may result from the excessive use of tea, coffee, or alcohol, or possibly a combination of these agents, with intestinal fermentation. In the cases which occur on other parts of the body than the axillary or pubic region I have been unable to demonstrate changes in the sweat glands, but subsequent investigation may show them.

A REPORT OF SIX CASES OF SYPHILIS TREATED WITH SALVARSAN

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In selecting cases for experimentation with "606" an attempt was made to choose those with demonstrable lesions and those which would best represent the various stages of the disease, excepting the meta- and parasyphilitic conditions.

The list of cases includes one with primary lesion of tonsil, one with primary lesion of penis with secondary eruption, two with maculopapular secondaries, one with ulcerating secondaries of the tonsils and vocal cords, and one with gummatous lesion of forehead. Except in one instance, an alkaline solution of the drug was injected into the buttocks according to the technic developed by Lesser.[1] In this exception the same solution was injected intravenously, after being first diluted with distilled water to 200 c.c., according to Schreiber's method.[2] The intragluteal injections gave very little pain at the time of administration except in one nervous individual. In every case the pain became quite severe within an hour after injection and in all but one case morphin was required to give relief. The pain was somewhat less the day following and the patients were able to leave their beds and to walk about, though with more or less difficulty on account of the soreness in the buttocks and pains radiating along the course of the great sciatic nerve. Local tenderness and induration developed and increased until about the fifth day, after

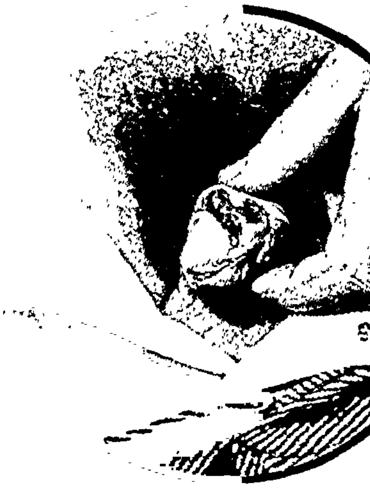

Fig. 1.—Lesion in Case 6 before injection with salvarsan ("606").

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[1] Described by Corbus, B. C.: The Value of Ehrlich's New Discovery. "606" (Dioxydiamidoarsenobenzol), THE JOURNAL A. M. A., Oct. 22, 1910, p. 1471.

[2] Schreiber: Verhandl. a. d. 82 Versamml. Deutsch. Naturforscher u. Aerzte in Königsberg, Sept. 20, 1910; Deutsch. med. Wchnschr., 1910, No. 41, p. 1899.

which it gradually subsided, though the latter was still noticeable in some cases twenty days after treatment. No reddening of the skin or fluctuation at the site of injection was observed.

Following each intragluteal injection there was a gradual rise in temperature to about 101° F. reaching the maximum on the third or fourth day with the general symptoms of fever, such as headache, loss of appe-

TABULATED RESULTS OF SALVARSAN ("606") MEDICATION IN SIX CASES

Age	Infection	Previous Treatment	Condition Before Injection	Injection	Local Effects	Condition After Injection	Remarks
42	Chancre of penis 1889 Treated locally. No secondaries were noticed Developed tertiary lesion 7/1/10.	Gumma incised and treated with antiseptic dressings. No mercury or iodids taken.	Gummatous lesion of frontal bone began about July 1, 1910. Was incised about September 1. On admission to hospital this was about 2½ by 2 in. in diameter and projected from forehead as a hard mass. There was a small incision in one portion of mass discharging pus. Loss of appetite and general feeling of ill health. Wassermann positive.	11/1/10—.6 gram "606," dissolved according to Lesser's method in a 20-c.c. alkaline solution and 10 c.c. injected into each buttock.	Patient cries with pain at the time of injection and complains of pain extending down legs. Painful indurated mass in each buttock with maximum tenderness on the third day. Tender to pressure twelve days after injection. No redness of skin or softening at any time.	11/3/10 — Two days later gumma softer and slightly smaller. Improvement steady. 11/19/10 — No discharge from incision and mass less than half the original size and very soft and flat. Gain of three pounds in weight; feels well; appetite good. Wassermann positive.	11/2/10—Erythematous eruption involving flexor surfaces of arms and upper part of chest. 11/3/10—Eruption fading rapidly.
21	8/15/10—Chancre of penis Spirochetes found. 11/15/10—Maculopapular eruption appeared.	Local for chancre only. Primary sore lasted seven weeks.	Maculopapular eruption scattered over body, more numerous in palms; mucous patches in mouth. General glandular enlargement; malaise, loss of appetite. Wassermann positive.	11/4/10—0.4 gm. by Lesser's method.	Painful induration. Left hospital ninth day, having but little local disturbance.	Mucous patches lost their irritability after fifteen hours. 11/7/10—Three days after injection mucous patches indistinctly seen. 11/6/10 — Two days after injection secondaries fading. 11/9/10—Glands becoming smaller. After eight days secondaries all gone from body. Remains of same in palms. 11/15/10—Patient looks fine and feels well.	
21	7/10/10—Chancre of penis lasting two weeks 8/15/10—Ulcerating secondaries in throat.	Took mercury for six weeks in pill form until teeth became sore. Took liquid medicine two to four weeks. No improvement at any time. All medicine stopped two or three weeks before admission to hospital.	Excavating ulcer of each tonsil size of a dime. Enlargement and induration of glands of neck. General glandular enlargement. Mucous patches in mouth. Erosion of vocal cord with edema and injection. Gonorrheal urethritis. Gonorrheal arthritis involving both knees. Wassermann positive.	11/4/10—0.6 gm. by Lesser's method.	Painful induration. Fairly comfortable in five days.	Infiltration of tonsils less marked after fifteen hours. Mucous patches not tender. Tonsillar and laryngeal lesions healed in six days. Glands slightly smaller after three days. 11/22/10 — Wassermann positive.	
34	Extragenital infection Aug. 5, 1910. Excision of primary lesion. 10/8/10—Maculopapular eruption. Mucous patches in mouth and about anus.	Gray powder, gr. 2 t. i. d., for two weeks. Blue mass, gr. 2, every four hours for two weeks. Discontinued on account of intestinal disturbances. Nine doses of mercury given intragluteally. Slight improvement in secondaries with latter. Last dose given 11/6/10.	Maculopapular eruption scattered over body and palms; more numerous over forehead. Mucous patches about anus. Moderate injection of conjunctivæ, especially of right eye. General malaise with loss of appetite. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Local effect in this case more marked than in others. Swelling more extensive from beginning and more painful. Cramps in calves of legs, especially at night. These still occurred eight days after injection. Sleeplessness requiring morphin and later chloral and trional.	11/10/10 — Mucous patches not sensitive. 11/11/10 — Secondaries fading. 11/16/10—Seven days after injection eruption almost gone; few lesions on back and forehead. 11/18/10 — Secondaries practically disappeared.	Herpes labialis on fourth day.
19	Exposed 8/20/10 — Sore throat developed about one month later.	None.	11/5/10 — Deep excavating ulcer of left tonsil with overhanging edges and infected base. Tonsil enlarged and indurated. Regarded as primary lesion. Submaxillary and surrounding glands enlarged. Axillaries and epitrochlears enlarged. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Painful induration. Discharged on seventh day, and walked with but slight limp at that time.	11/10/10 — Fifteen hours after injection ulcer was not so deep or crater-like in appearance and was not painful on swallowing. Tonsil smaller. 11/21/10—Lesion entirely healed.	
24	10/3/10—Chancre, which was treated locally. Macular rash appeared 11/10/10.	Two doses sodium cacodylate, hypodermatically. Oct. 22, 10.1 gr.; Oct. 22, 1910, 1 gr.; Oct. 25, 1910, 2 gr.; Oct. 25, 1910, 10.2 gr.	Two large indurated sores on penis (see photo). 11/10, macular rash over body. Wassermann positive.	11/12 — 0.4 gm. "606" given intravenously, according to Schreiber's method. After a portion of the fluid was injected a small amount ran beneath the skin, so a new site was chosen, with perfect result.	Very slight irritation where small amount of fluid ran under skin. This disappeared the following day. No soreness where technic was good	Chill, nausea and vomiting two hours later. Temperature rose to 101.5° F. in six hours and had one diarrhoeic stool. Primary lesion markedly improved on second day. Healed in thirteen days. (Figs. 1 and 2.)	Six hours after injection rash much brighter and more extensive. (Herxheimer reaction?) Herpes labialis on third day.

tite, general malaise, and leukocytosis. In the case in which the drug was given intravenously there was a rather marked but very transient general reaction. There was a marked chill two hours after the injection and the temperature arose in six hours to 101.2° F. Associated with the increase in temperature there was headache, vomiting and one diarrheic stool. When the temperature was highest this patient showed a distinct increase in the already existing rash which became more intense and more extensive, covering the whole of the trunk and the extremities (the so-called Herxheimer reaction).

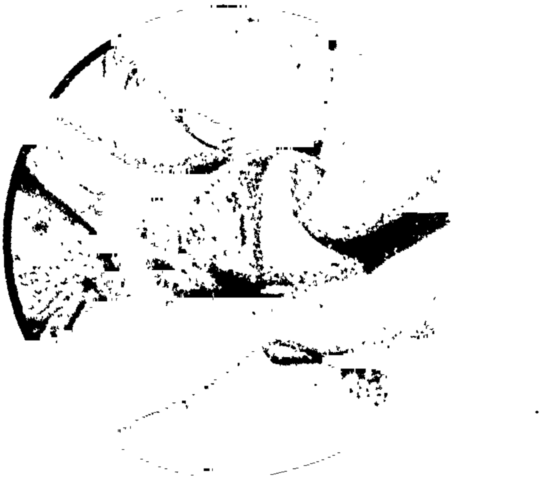

Fig. 2.—Lesion in Case 6 thirteen days after injection with salvarsan ("606"). The induration is much less marked and the ulcer has entirely healed.

The most interesting result of the use of the remedy was the rapid onset of the improvement after the administration. The primary lesions began to heal within two days. The mucous patches lost their irritability in fifteen hours. The ulcerating secondaries of the tonsils manifested an improvement in the same length of time, the first changes being a decrease in the infiltration of the surrounding tissues and a subjective lessening of the stiffness which caused difficulty in swallowing.

All of the patients are still under observation and subsequent serum examinations will be made to determine the ultimate results of the treatment.

AN INTERESTING CASE OF CONFUSIONAL INSANITY

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The following case presents several features of unusual interest to the student of mental diseases. In the first place, it is a rather rare type of mental derangement, as I have found in reading the meager descriptions given in available texts; secondly, the etiologic factor is interesting as well as unusual; third, the duration of the attack, and last, the peculiar disappearance and abrupt recovery.

The patient in question, a German-American, was admitted Nov. 17, 1910. Examination showed a man of healthy appearance, though rather thin; age 38, height 5 feet, 11¾ inches, weight 160; pulse 68, regular and full; temperature 98.2; respirations 17; motor symptoms none; all functions fair. His hereditary history was negative—father and mother living and in good health; no history of mental trouble in collaterals.

The patient was quiet and unobtrusive; talked freely when addressed, and frequently mentioned soldiers, woodmen and doctors; would give his correct name when asked but could not spell it. Given pencil and paper, he attempted to write, but gave up, laughing, and remarked that he could neither read nor write. He was cleanly in his habits, not violent in any way and obeyed when told to do anything. He complained of no symptoms, ate heartily and slept well. The commitment papers described him as a well-to-do business man, of fair education, married and the father of four children. He had never suffered from mental trouble, serious injury or disease, was temperate in his habits, and of mild disposition.

In October, 1909, he went with a brother to Omaha to be operated on for appendicitis, ether being the anesthetic used. The operation was successful and after a three weeks' stay in the hospital he returned to his home. From then on he showed a marked change of disposition; refused to recognize his wife and disowned their children. His mind dwelt incessantly on physicians and operations, and he talked continually about taking good care that no medical man would ever come near him. March 28 he disappeared, leaving some blood-stained clothes on a lake shore near the town. All search for him proved futile, and no trace of his whereabouts was found until Nov. 7, 1910. On that date he was picked up by the police of a distant city, identified and returned to his people. His peculiar actions caused him to be brought before the insanity board, which resulted in his being committed to the Nebraska State Hospital. On entering the hospital he was given an active purge and placed under surveillance, no special treatment being instituted.

On the fifth day he asked to see me privately and was brought to my office. A marked change was noticeable in his demeanor, and his face bore a look of interest and intelligence. His first remark was, "Doctor, I'm all right again." Explaining further, he stated that sometime after midnight he awoke and felt a queer pain in his head. Sitting up in bed he noticed that he was in some sort of a ward, and recalling the operation decided that he was still in the Omaha Hospital. When morning came he learned his mistake and immediately questioned an attendant as to his whereabouts and how he had reached such a place.

The last act he could recall was taking ether, previous to the operation thirteen months ago. He could describe the room, and repeat all conversation heard before succumbing to the anesthetic. As to going home after the operation, remaining there until March, and disappearing, he knew nothing. Apparently, no thought or act, during the entire year had left an impression on his mind, and he had lost completely thirteen months of his life. Strangely enough, there seems to be no trace whatever of how or where he passed the interval between March and November. Neither hands nor clothes showed signs of manual labor, and his inability to read or write, while mentally deranged, as demonstrated on entering, showed him incapable of intellectual employment. His means of support and actions during this period would certainly prove of unusual interest, but seem destined to remain a mystery.

The patient's wife was notified at once of his mental change and took him home on parole. A recent report from her states that he has been normal since his return, has taken up work where it was dropped in October, 1909, and is none the worse for his mental vacation.

I have been unable to find, in available literature, a description of any case closely related to the above, but presume that they occasionally come under the care of mental specialists. An interesting case was reported from Toronto, Canada, several years ago, and also one in the London *Lancet* a decade ago. These cases, I believe, were diagnosed as perverted personality, and though resembling our case in some particulars, were unlike in essentials. For want of a more specific diagnosis we have classified our case as post-operative confusional insanity.

FOREIGN MATERIAL IN THE STOMACH

REPORT OF A REMARKABLE CASE

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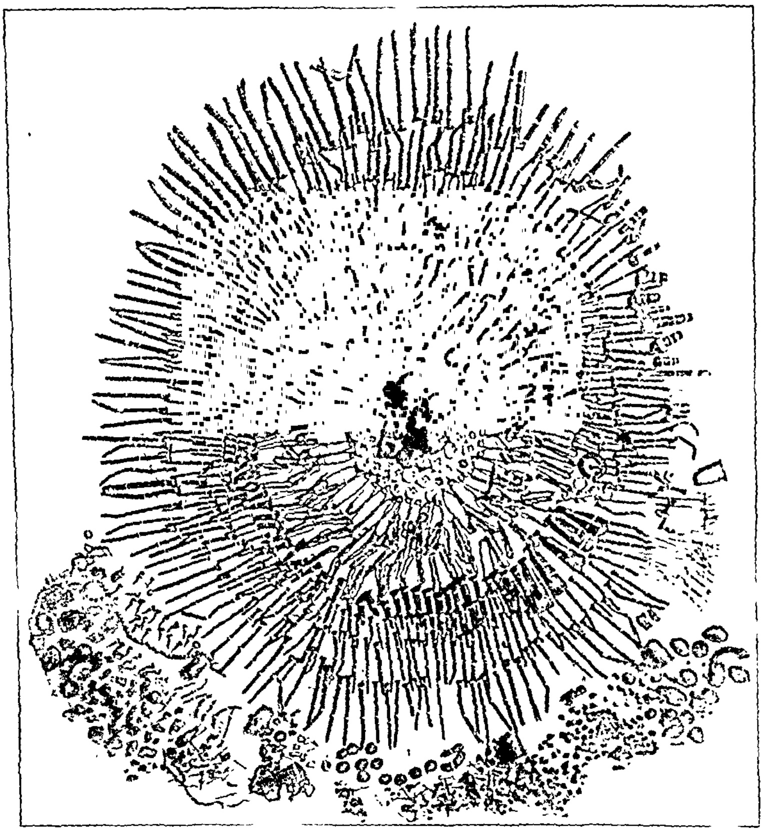
It is not very unusual that hysterical and insane patients swallow hard and indigestible articles, and occasionally this foreign material is found in the stomach at operation or autopsy. Buttons, coins, needles, pins, hairpins, nails, false teeth, and even knives and forks have occasionally been swallowed: and at times may give rise to serious trouble by causing perforation or occlusion of the gastro-intestinal tract. It is also quite a common practice in cases of dementia for patients to pick up and swallow pieces of lint, string or hair, or even to swallow their own hair after biting or pulling it off. Bell of Montreal reported a case in which the hair-ball removed from the stomach formed a complete cast of the stomach and duodenum. We report this case because of the large number and variety of articles present and their great combined weight, with resulting distention and displacement of the stomach. The patient was an inmate of State Hospital No. 2 on the service of Dr. A. H. Vandivert. Both of us were present and conducted the necropsy.



A human hardware store—a collection of foreign bodies found at necropsy in the stomach of insane patient.

History.—Sallie R., a mulatto, aged 33, was admitted July 24, 1903, with acute mania which terminated in dementia, following the use of cocain and morphin. At the time of admission, she was somewhat emaciated, indifferent to appearance, eating and sleeping well. Her physical condition improved soon and the clinical notes made by attendants from that time until her death were always, "appetite and digestion good." She was at first often combative, and because of this tendency was frequently under restraint. During all the time of her confinement she showed a considerable degree of mental enfeeblement, losing all interest in surroundings. Most of the time she was wholly unemployed. She remained in this condition, gradually becoming quiet, less resistive and more interested in things about her, assisting on the ward by sweeping, dusting and such light duties. She was frequently seen by the attendants to pick up from the floor and lawn small articles such as nails, pins, etc., but it was not known that she was in the habit of swallowing them. Her health began to fail and her symptoms first attracted attention about Dec. 1, 1909. Examination at that time suggested kidney trouble, but analysis of the urine failed to confirm a diagnosis of interstitial nephritis, but further observation and subsequent examination did confirm the opinion that she had a nephritis. The extremities became edematous and she was much troubled with dyspnea: still digestion and assimilation continued good, with little loss of flesh or none at all. These conditions continued up to within fourteen days of her death. She never refused food until a week before her death, and then only on two or three occasions. Digestion was apparently normal. In fact, the remarkable stomach findings at autopsy were entirely unsuspected.

Necropsy.—Death occurred Sept. 4, 1910, with autopsy twenty-four hours later. Rigor mortis was complete; the body was well nourished: edema extended to the hips. Opening of the abdomen revealed a peculiar condition of the stomach. There was a slight degree of ptosis of the upper margin: the greater curvature was elongated and rested in the left iliac fossa and presented a nodular, hardened mass which was soon found to be due to a collection of foreign bodies to be described later. The stomach wall was adherent to the muscles of the iliac fossa. Around the stomach and the anterior abdominal wall over a considerable area, forming a sling supporting it and adherent to it so intimately as to be separated with some difficulty, was the greater omentum. Many points of nails, needles and other sharp objects had penetrated the stomach walls, but leakage into the peritoneal cavity was prevented by the thickened and adherent omentum. Throughout this area of adhesion were found numerous small abscesses, resulting from the many perforations, but all were firmly walled in and the general peritoneum well protected from infection.

The stomach measured in transverse diameter 1 cm., in length 33 cm. The greatest diameter was from the cardiac orifice to the lower portion of the sacculated fundus along the greater' curvature. This portion extended to beneath the crest of the ileum and was fixed immovably to the anterior abdominal wall. The mass of foreign material lay in this sacculated portion, leaving only a narrow channel along the lesser curvature for the passage of food. Evidently the stomach took little part in the process of digestion, the food being conveyed directly to the pylorus, and very slightly intermingled with the foreign contents.

The stomach wall at the fundus was 14 to 16 mm. in thickness, the subserous layer being 5 to 6 mm. or about one-third of the wall's thickness. A section removed from the thicker portion for microscopic examination showed a marked atrophy of the mucous membrane. The mucous gland tubules presented frequent cystic enlargements, probably from occlusion of orifice. Over numerous small areas there was almost complete erosion of the epithelium, with subjacent round-cell infiltration, indicating the formation of ulcers. Much fibrous tissue could be seen external to and infiltrating between the fibers of the muscularis mucosa. The muscular coat was about normal except that the layers were more than usually well defined by interposed bands of connective tissue. The greatest change was noted in the subserous coat. Here was a thick layer of a dense, fibrous structure, extending over the greater part of the fundus, representing Nature's effort to assist in supporting the great weight imposed on the stomach walls and to protect the peritoneum from injury.

In a few instances there was complete destruction of the mucous membrane over a well-defined surface, apparently from pressure by one of the large foreign bodies, probably for a long period of time. Here the base of the ulcer was formed by dense scar tissues.

The mucous membrane of the esophagus was greatly eroded and numerous ulcers were found, with extensive round-cell infiltration. The muscular layers were hypertrophied and sharply defined.

Foreign Bodies.—The weight of the stomach contents removed at autopsy, after repeated washings to remove all food material, was 2,268 gm. One needle was found in the esophagus and one in the lower border of the left lung. Below is a classified list of the articles removed, as shown in the illustration:

NAILS

20-penny	5	
16-penny	21	
10-penny	24	
8-penny	80	
5-penny	113	
3-penny	210	
Total	453	453

SCREWS

2 1/2 in.	4	
1 1/2 in.	11	
1 1/4 in.	5	
1 in.	9	
3/4 in.	6	
1/2 in.	7	
Total	42	42

BOLTS

3/8 x 1 in.	3	
3/8 x 1 3/4 in.	1	
5/16 x 2 1/2 in.	1	
1/4 x 2 in.	1	
5/16 x 1 in.	3	
Total	9	9

MISCELLANEOUS

Teaspoon handles	5	
Nail-file, 3 1/2 in.	1	
Pieces of steel, 2 3/4 in.	3	
Thimbles	5	
Salt-shaker tops	3	
Taps for 3/8 in. bolts	10	
Buttons	63	
Safety-pins	105	
Hairpins	115	
Carpet-tacks	52	
Common pins	136	
Large white-headed pins, 21/3-1/2	16	
Needles	37	
Broken coat-rack hooks, 2 x 1/4 in.	7	
String beads, small, 4 ft. long	1	
Larger beads, loose	70	
Small stones and pieces of glass	85	
Prune seeds	7	
Pieces of metal, combined weight 3 oz.	54	
Hooks and eyes	19	
Grape and other small seeds	148	
Total	942	942
Making a combined total of		1,446

This case is remarkable for the number and weight of the articles removed as well as for the size and peculiar forms of some of them, especially so when considered in connection with the fact that there had never been any symptoms suggesting trouble with the stomach.

Jaundice not Pathognomonic in Cholelithiasis.—The impression is prevalent that jaundice is pathognomonic of gall-stone. This is not so and much valuable time is lost in waiting for its appearance in patients suffering from cholelithiasis; 80 per cent. do not have it.—A. L. Wright, in *Iowa Medical Journal.*

THE DIAGNOSTIC VALUE OF LOCAL TUBERCULIN REACTIONS *

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Three years ago, on May 15, 1907, von Pirquet announced, at a meeting of the Berlin Medical Society, his discovery of the cutaneous tuberculin test, which consists of a superficial scarification of the skin through a drop of the old tuberculin and the subsequent appearance (in those afflicted with tuberculosis) of a characteristic papule at the point of the inoculation.

The demonstration of this new diagnostic procedure was made possible by the researches of von Pirquet (and B. Schick) into the general law of "allergy" or the altered reaction of the organism toward infective agents on their reintroduction.

The "early vaccinal papule" appearing on revaccination, as well as the cutaneous papular reaction, following the application of tuberculin to the skin of tuberculous individuals, were both ascribed by von Pirquet to the contact of the infectious agent with "antibodies" lodged in the integument as the result of previous infection. The "hypersensibility" of the infected organism, displayed on reinfection, was shown to be a factor in the production of the reaction, the mechanism of which is supposed to consist of the digestion of the introduced virus by the antibodies and the liberation of a toxic substance, with its inflammatory effect on the skin at the point of inoculation. While this and Wolff-Eisner's explanation of the local reaction (substituting "bacteriolysins" for "antibodies") are at present quoted by various writers, the entire question, in its theoretical and practical aspect, is still a subject of extensive investigation.

Contemporaneous with the announcement by von Pirquet of the cutaneous tuberculin reaction, came the demonstration by Wolff-Eisner and Calmette of a similar phenomenon in the conjunctivæ of tuberculous individuals, and this was soon followed by various modifications of the original von Pirquet test by a number of investigators, as Moro (percutaneous test with salve containing 50 per cent. tuberculin), Lignières (rubbing 5 to 6 drops of undiluted tuberculin into the skin), etc., all these tests being based on the now accepted idea of the wide distribution of specific antibodies in the organism of the infected individual.

The specific character of these local reactions found considerable substantiation: (1) in the post-mortem statistics of von Pirquet (demonstrating tuberculous lesions in 123 out of 124 children reacting to the cutaneous tuberculin test, and 161 negative post-mortem findings in 190 children with negative reactions) and in the post-mortem statistics of Wolff-Eisner, Calmette and others; (2) in the almost constant occurrence of these reactions in clinically tuberculous individuals, barring a large number of very advanced cases, miliary tuberculosis, complications by other diseases (as measles) and a few other conditions still unexplained.

The percentage of the positive conjunctival reactions in the clinically tuberculous is given as 92 by Calmette (2,894 cases), 90 per cent. by Wolff-Eisner (435 cases) and 80 to 95 per cent. by numerous other observers; the percentage of the positive cutaneous reactions in tuberculous adults is given by von Pirquet as 90.

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* Read at the Sixth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 2-3, 1910.

Considerable difference between the occurrence of the conjunctival and cutaneous reactions was observed in the "apparently healthy" class, the cutaneous reaction being positive in 70 per cent., even at the age of 10 (von Pirquet), while of the apparently healthy adults only 15 per cent. respond to the conjunctival test (Wolff-Eisner).

This observation led to Wolff-Eisner's and Calmette's interpretation of the positive conjunctival reaction as occurring only in active cases of tuberculosis, the comparative infrequency of the positive conjunctival reaction in the "apparently healthy" class being used by Wolff-Eisner as one of the chief arguments in favor of this contention.

The relation between the positive conjunctival reaction and the activity of the tuberculous process has not been, however, so far established (neither has it been absolutely disproved) and the most that can be said, in the light of the present experience, is that a positive local tuberculin reaction, conjunctival or cutaneous, signifies probably in all cases a preexistent tuberculous infection, without furnishing any conclusive information as to the active or latent character of the process.

The cutaneous test is recommended by von Pirquet for diagnosis of tuberculosis in children under 2 years of age, a positive reaction signifying an active tuberculous process, latent tuberculous lesions being rare in this period of life. The test, in his opinion, is not appropriate for adults, in whom positive reactions occur in a large percentage of cases, corresponding to the increasing frequency of latent tuberculous lesions, from childhood up to maturity and old age.

The percutaneous (Moro's) test has no material advantage over the v. Pirquet procedure (as stated by Bandelier and Roepke and others), and is less reliable because of such drawbacks as (1) the variable power of absorption of the skin of different individuals, and (2) a number of conditions varying with each operator (force used in application, etc.). The last objection is equally applicable to the cutaneous test; the manner of its application in all its details must be agreed on, the scarification never to exceed the mere removal of the superficial layer and all unnecessary injury to the skin to be avoided.

The conjunctival test, because of the possibility of its harmful effect in a certain percentage of cases, is not employed at present as extensively as before. With certain precautions, the occurrence of untoward developments may be reduced, however, to a minimum or possibly excluded altogether. In 6,303 conjunctival tests, as reported by Calmette at the International Tuberculosis Congress in Washington in 1908, he encountered three cases of phlyctenular keratitis, twenty of conjunctivitis and seventy-two prolonged reactions. Wolff-Eisner observed very few harmful effects with the use of a 1 per cent. solution of the old tuberculin in a large number of cases. Similarly, with the use of a 1 per cent. solution of old tuberculin in 500 cases (187 positive reactions; physiologic salt solution employed as diluent; cases of ocular disease and conjunctivitis, chronic or acute, excluded) I have seen only two instances of prolonged violent reactions, and these without any permanent injury to the eye. Further research as to the utility of the conjunctival test may, however, be well carried on in the future, particularly by animal experimentation, until all conditions determining the conjunctival reaction are more or less fully established and a harmless method of its application is evolved.

The local tuberculin reaction is but a link in a chain of evidence pointing to the tuberculous character of a suspected lesion and the value of its occurrence can be adjudged only by a comprehensive study of the entire evidence in each individual case; the clinical history, physical signs, etc.

Considerable clinical study and further extensive autopsy experience is still needed in order to establish the relation of the local reaction to the active and latent tuberculous processes and the various types of tuberculous disease. The conditions determining the reaction itself as well as the rapidity and degree of its development in various types of cases are still a fruitful field for research, if the local reaction is to gain the position of a practical diagnostic procedure.

During the last two years I have employed (at the Edward Sanatorium, at Naperville, Ill., and in my dispensary and private practice) the local and subcutaneous tuberculin reactions in a variety of tuberculosis cases. For the conjunctival test a drop of a solution of Koch's old tuberculin in an 0.8 per cent. sterile physiologic salt solution was used; for the cutaneous test, undiluted old tuberculin; dilutions of old tuberculin of various strengths (in 0.5 phenol solution) were employed cutaneously for differential study of results with various dilutions in the same individual. For the percutaneous test (Moro) an ointment consisting of equal quantities of Koch's old tuberculin and hydrated wool fat was employed.

In applying the conjunctival test the technic, as recommended by Wolff-Eisner, was closely followed; for the cutaneous reaction the superficial layer of the skin of the forearm (anterior surface) was gently scarified, by turning the von Pirquet inoculation needle through a drop of the old tuberculin; in applying the percutaneous (Moro) test a piece of the ointment the size of a pea was rubbed into the anterior surface of the forearm. The results were generally observed at the end of twelve and twenty-four hours and, after that daily for several days.

The conjunctival reactions were classified in their degree according to the scheme of Citron.[1] Similar classifications are offered by Comby, Edward R. Baldwin, and others. In this scheme + = means reddening of the caruncle and palpebral conjunctiva; + + = means intenser reddening with involvement of the ocular conjunctiva and increased secretion; + + + = means intense reddening of the whole conjunctiva with chemosis, much fibrinous and purulent secretion, small ecchymoses, etc.

For the results of the percutaneous test, Moro's classification was used.[2] It is as follows: Slight reaction: single, isolated, more or less distinct, reddened spots, visible twenty-four to forty-eight hours after the inunction and only on careful inspection, disappearing in a few days; well-marked reaction: papules indistinguishable in degree of hyperemia and exudation from those of the cutaneous inoculation, or coalescing red nodules on inflamed base; intermediate: thirty to fifty or more discrete, miliary nodules with reddened areola. The size of the papule, the degree of redness and elevation were recorded in describing the cutaneous reactions.

This paper deals with some of the features of the local tuberculin reactions, as influenced by the site of the inoculation, the degree of the tuberculin dilution, the stage of the disease and the state of resistance; in a group of cases the local tuberculin reactions are compared with the results of the subsequent subcutaneous injections of tuberculin.

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[1] Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 24.

[2] Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 17.

THE SITE OF THE LOCAL TUBERCULIN INOCULATION AS A FACTOR DETERMINING THE DEGREE OF THE REACTION

In applying the von Pirquet test to the skin, the degree of the reaction varies frequently, according to the site selected, in its extent, injection, elevation and rapidity of development. Exceptions, however, occur to the observations stated below, the reaction at times being more marked in locations where the reverse is usually the rule.

In all, 140 applications of tuberculin were made in fifty-five cases of pulmonary tuberculosis (mostly in the first stage of the disease). In ten cases tuberculin was applied simultaneously to the anterior surface of the arm and the interscapular space, the dilutions of 10 and 25 per cent. and undiluted tuberculin (2 inches apart) being used in a straight line in both locations. In five of these cases the reactions were slightly more pronounced in size in the interscapular space; in three there was practically no difference; in two the reactions were slightly more marked on the arm.

In twelve cases undiluted tuberculin was applied to the anterior surface of the forearm and the interscapular region on the same side. Invariably the reaction in the interscapular region was more extensive, generally redder and in two cases more elevated (the average diameter of the interscapular reaction 16.5 mm., forearm 10 mm.).

In twelve cases undiluted tuberculin was applied to the posterior surface of the left leg and anterior surface of the left forearm, with a resulting more marked reaction in the first-named location in nine cases (average diameter 12.5 mm., forearm 9.5 mm.). Slightly more marked reaction was observed on the left forearm in four cases, in which undiluted tuberculin was simultaneously applied to the anterior surfaces of left and right forearm.

In twelve cases, a 25 per cent. dilution of tuberculin was simultaneously used on the anterior surfaces of the thigh and arm, with a resulting more marked reaction on the thigh in nine cases (average diameter 12.5 mm., arm 9.5 mm.). More marked reactions were also observed below the mammary gland than on the anterior surface of the forearm.

It is evident from observations made by numerous investigators that the anatomic conditions of the skin and mucous membrane in various locations of the body (the histologic structure, circulation, lymphatic system, nerve-supply, etc.), as well as greater cutaneous sensitiveness displayed by some individuals to the slightest mechanical or chemical irritation, have their influence in determining the degree of the reaction; they are factors of importance and an accurate interpretation of the local reactions is impossible without giving due consideration to these varying conditions.

THE STRENGTH OF THE TUBERCULIN SOLUTION AS A FACTOR DETERMINING THE DEGREE OF THE CUTANEOUS REACTION

One hundred and four cutaneous applications of tuberculin, of various dilutions, were made, according to von Pirquet's directions, in forty-six cases of pulmonary tuberculosis (twenty in the incipient stage, twenty-six moderately advanced). In thirty-four of these cases, a 25 per cent. solution and one of undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm, 2 inches apart, the scarification being made with a separate instrument through a drop of each dilution. The resulting reactions were as follows: (1) size of the papule with undiluted tuberculin decidedly larger in fourteen cases (with undiluted tuberculin the diameter was 12.5 mm.; with 25 per cent. it was 7.5 mm.); smaller in twelve (with 25 per cent. 13.5 mm., with undiluted 9.5 mm.); same size with both dilutions in eight cases; (2) elevation of the papule, with undiluted tuberculin, greater in ten cases, smaller in six, same in eighteen; (3) redness, with undiluted tuberculin, more pronounced in four cases, same in thirty.

In twelve cases, a 10 per cent. dilution, a 25 per cent. and undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm. The resulting papule was larger in size, with undiluted tuberculin, in six cases; larger, with 10 per cent. in four; the same with all dilutions in two. The elevation was more marked with undiluted tuberculin in six, with 10 per cent. in two, the same in four. Redness was more pronounced with undiluted tuberculin in eight, with 10 per cent. in two, the same in two.

The manner of the application and the actual amount of tuberculin absorbed are seemingly important factors in determining the degree of the reaction.

In all our cases, an attempt was made to make the scarification superficial and uniform, with all dilutions. The drop was left undisturbed for five minutes after the inoculation, the excess of tuberculin around the point of inoculation being removed at the end of that time.

A more reliable interpretation of the cutaneous reaction may be possible with an improved technic, in which a small, measured quantity of tuberculin should be used for cutaneous inoculation, under conditions facilitating its complete absorption.

THE ANATOMIC EXTENT OF THE DISEASE AND THE STATE OF RESISTANCE OF THE INDIVIDUAL AS FACTORS DETERMINING THE DEGREE OF THE LOCAL TUBERCULIN REACTION

From the experience of numerous observers we know that, as a general rule, reactions on application of tuberculin grow less pronounced and occur less frequently with the anatomic progress of the disease from the incipient to the far-advanced stage. The "antibody" theory of tuberculin reactions explains this by the gradual failure of the organism to respond to tuberculin stimulation. The anatomic extent of the disease is, however, not always indicative of the coexistent state of resistance of the individual. In numerous cases, with most extensive signs, particularly in those in which the process is very chronic and the general condition is favorable, the local tuberculin reaction is frequently very pronounced, while the reaction fails or is very slight in a certain percentage of anatomically incipient cases.

In statistics covering thousands of cases, the classification "first," "second," "third" stage is synonymous of course with the gradual impairment of resistance and decline of response to tuberculin, from stage to stage (as various factors counterbalance each other in large groups of cases). In observation of individual cases, however, this power or failure of response to local tuberculin application is frequently at variance with the stage of the disease.

I append here, as an example, an experience with a group of cases classified according to stage[3] and observed for periods of one to two years subsequent to tuberculin application. This group included a number of advanced cases characterized by chronicity of process and favorable general condition.

In 165 cases of pulmonary tuberculosis (ninety-nine incipient, thirty-six moderately advanced, thirty far advanced), the conjunctival reaction was positive (traces of reaction included) in 67 per cent. of the incipient, in 33 per cent. of the moderately advanced and 67 per cent. of the far advanced; the cutaneous reaction was positive (diameter above 5 mm.) in 69 per cent. of the incipient, 41 per cent. of the moderately advanced and 67 per cent. of the far advanced.

The average diameter of the inoculation papule in the first stage cases was 12 mm.; second, 13 mm.; third, 11.5 mm.; the comparison showing very little variation for the three stages of the disease.

With the conjunctival test, more pronounced reactions were obtained in the second stage (48.5 per cent. of the positive cases more than +) than in the first (28 per cent. more than +). Very slight difference in the degree of the percutaneous reaction was observed in forty first stage cases and twenty-nine second. These figures have reference of course only to a limited number of cases divided according to stage; their analysis suggests, however, that the mere anatomic extent of the disease does not give a definite idea of the resistance of the patient and sensibility that may be displayed on application of tuberculin.

Dividing these 165 cases into three groups, regardless of the anatomic extent of the disease—(1) progressive cases, good general condition, (2) stationary, good general condition, (3) far advanced, hopeless—the percentage of the positive reactions is readjusted in the following way: first class, conjunctival, positive in 75 per cent., cutaneous in 70 per cent.; second class, conjunctival, positive in 35 per cent., cutaneous in 82 per cent.; third, conjunctival, trace in 10 per cent., cutaneous, positive in 33 per cent.

Observations on various groups of cases lend support to the general idea that the tuberculin reaction fails with the gradual exhaustion of the defensive elements of the organism, and the anatomic extent of the disease is important only in the measure in which it is operative in producing this condition. This is offered as an observation, familiar to many, without any attempt at evolving a general diagnostic or prognostic scheme based on the degree of the local tuberculin reaction. Experience, however, tends to substantiate in a large number of cases the dictum of Wolff-Eisner, that a negative local tuberculin reaction, in the presence of decided physical signs, is of unfavorable augury, pointing as it does to the inability of the organism to counteract the toxins of the tubercle bacilli; while a positive reaction means simply that the defensive elements still exist, the battle is still being fought, but the result cannot be predicted.

REPETITION OF THE LOCAL TUBERCULIN TEST DURING THE COURSE OF THE DISEASE: INTERPRETATION OF THE RESULTING REACTION

It is evident from the consideration of the conditions determining the occurrence and the degree of the local reaction, that various factors influence the result of the repeated local tuberculin test. Of these the following may be considered:

1. The hypersensibility occasioned by a previous inoculation of tuberculin into the skin or conjunctiva is a factor of considerable importance. Fritz Levy[4] was the first in Germany to call attention to the fact that, on the second application of the conjunctival test, hypersensibility is manifested in 70 per cent. of cases, the condition becoming operative three days after the first instillation; this phenomenon was observed also on repetition of the cutaneous reaction. The exact duration of this hypersensibility is still undetermined. Experience shows that in a large percentage of cases the conjunctival test repeated in the other eye is positive, while the first reaction was negative, and the same is true of the cutaneous test. To what extent and in what manner the first introduction of tuberculin influences the result of the second application at another site, is still a question open to further investigation. We know, however, that the local changes produced by the first application of tuberculin are operative for a considerable period of time, as manifested by the reinflammation of the local tuberculin reactions on subcutaneous injection of tuberculin, months after the local test was performed. In 90 subcutaneous injections of tuberculin in a corresponding number of incipient closed cases of pulmonary tuberculosis, with the resulting characteristic constitutional reaction in 80 cases (doses O.T. from .0002 c.c. to .005 c.c.), reinflammation of the conjunctival reaction occurred in 54 cases, cutaneous in 74. The reinflamed conjunctival reaction was more pronounced than the original in 46 cases, same in 6, slighter in 20; cutaneous, more pronounced in 46, same in 8, slighter in 20. The size of the reinflamed cutaneous spot in many cases was two to five times larger than the original, and this with the injection done two to four months after the application of the local test. Approximately the same experience was obtained with the percutaneous (Moro) test. The reinflammation of the reaction spots may be due to the presence of a larger number of antibodies or bacteriolysins near the cutaneous or conjunctival focus of deposited tuberculin. In what measure or manner this focus of deposited tuberculin influences the result of subsequent tuberculin inoculation at another cutaneous or conjunctival site is still a matter of speculation.

2. The interval between the first and second applications of tuberculin. Improvement in the general condition of the patient as a factor influencing the degree of the repeated reaction. With the progress of a large proportion of tuberculosis cases under sanatorium or home care toward improvement, it is interesting to note the difference between the results of the first and the following local tuberculin tests as applied at various intervals. In 52 cases of pulmonary tuberculosis (34 incipient, 10 moderately advanced and 8 far advanced) the conjunctival test was repeated in the other eye at intervals not exceeding one month from the date of the first application, with the resulting increase in the degree of the reaction over the first test in 30 cases out of 52 (this includes also cases found negative on the first application and positive on the second); of 26 cases, in which the second instillation was performed from one to six months later, an increase in the degree of the reaction was noted in 8, suggesting the explanation that the larger number of more pronounced second reactions in the first month following the first application is dependent on the hypersensibility resulting from the first instillation, a hypersensibility, the duration of which is yet undefined.

Approximately the same result was obtained with the cutaneous test: increase in the degree of the reaction in 22 cases out of 38, with repetition of the test during the first month; and in 18 cases among 42, with the second test applied from one to five months later.

In analyzing the effect of the improvement of the general condition of the patient on the result of the repeated local tuberculin test, the proximity of the dates of both tests shows itself again to be a factor of great importance. With a gain of less than 10 pounds in weight, subsequent to the first tuberculin application, the second conjunctival reaction was more pronounced in twenty cases out of thirty-two; with a gain of 10 to 30 pounds, in fourteen out of thirty-eight; an increase in the degree of the cutaneous reaction occurred in the first class of cases in eighteen out of thirty-six, in the second class in twelve out of twenty-six, the smaller increases in weight occurring in the first few weeks subsequent to the first tuberculin application, the greater increases in the following four to five months.

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[3] Provisional Scheme of the National Association for the Study and Prevention of Tuberculosis.

[4] Wolff-Eisner, Alfred: The Ophthalmic and Cutaneous Diagnosis of Tuberculosis. Chapter on the Repetition of the Reaction.

A proportionately larger number of more pronounced second reactions was observed in incipient cases; the least deviation in the far advanced, regardless of gain in weight.

It may be expected that the improvement in the general condition of the patient, presumably productive (always?) of an increase in the defensive elements of the organism, would show itself in a more vigorous reaction on the introduction of tuberculin, and this is probably the case; in many instances, however, a mere increase in weight may not be coincident with a greater production of defensive antibodies, as shown by the progressive course of a large percentage of tuberculosis cases regardless of enormous increases in weight.

The relative influence of (1) the state of hypersensibility resulting from the first tuberculin application, and (2) of the increased resistance (as suggested by improved nutrition, recession of the physical signs, etc.), on the result of the repeated local tuberculin test, is still a matter in need of further investigation.

In studying the results of the local tuberculin tests, when applied (1) to various groups of tuberculosis cases (differing in extent and activity of the process, state of resistance, previous use of tuberculin, etc.) as well as (2) at the various stages of improvement or further progress of individual cases, it becomes evident that numerous conditions operate in determining the occurrence and the degree of the resulting reaction. If the present theory of the local tuberculin reaction (based on the assumption of the wide distribution of specific antibodies or bacteriolysins in the infected organism) is correct, all the above-mentioned conditions are factors to the extent to which they stimulate the production of these specific substances and influence the sensibility of the organism to the infectious agent and its toxins.

THE DIAGNOSTIC SIGNIFICANCE OF THE LOCAL TUBERCULIN REACTION AS CONTROLLED BY A SUBSEQUENT SUBCUTANEOUS INJECTION OF TUBERCULIN

1. In 30 incipient pulmonary closed cases in which the conjunctival reaction was positive (21+, 9++), and the cutaneous at the end of forty-eight hours fully developed and strong (average diameter 13.5 mm., pronounced redness and distinct elevation in 60 per cent.), the percutaneous positive in 14 out of 18 (4 slight, 4 intermediate and 6 marked), the subcutaneous test was positive in all: six responding to 0.2 mg. O.T., eighteen to 1 mg., six to 3 mg.; average rise of temperature, 0.9 F.; symptoms in 24; focal reaction in 4; average dose of O.T., 1.2 mg.; marked reinflammation of the conjunctival and cutaneous reaction in 30 (18++, 12+; average diameter of the reinflamed cutaneous spot, 27.5 mm.).

2. In 12 cases of the same class, with the conjunctival = trace in 12, the cutaneous rapid and marked in all (average diameter 13.5 mm.), the percutaneous positive in 9 (3 slight, 4 intermediate, 2 marked), the subcutaneous test was positive in ten: 9 cases responding to 1 mg. and 1 to 3 mg.; focal reaction in 1; symptoms in 8; average rise of temperature after the injection, 1.5 F.; average dose of tuberculin used, 1.4 mg., still showing that regardless of the doubtful conjunctival reaction in these cases, the subcutaneous test was positive with approximately the same dose of tuberculin as in the first group of cases; reinflammation of 6 conjunctival reactions (6+) and 9 cutaneous (average diameter 42 mm.).

3. In 24 cases of the same class, with the conjunctival trace in 24, the cutaneous slight (average diameter 7.5 mm.), the percutaneous positive in 2 out of 7 (one trace, one slight), the subcutaneous test was positive in 21 cases (6 responding to 1 mg., 6 to 3 mg., 6 to 5 mg. and 3 to 10 mg.); average dose of tuberculin, 4 mg.; average rise of temperature after the injection, 0.6 F.; focal reaction in one, symptoms in 15; reinflammation of 8 conjunctival reactions (3 traces, 5+) and 13 cutaneous (average diameter, 12.5 mm.).

4. In 12 cases of the same class, with the conjunctival positive in all (7+ and 5++), the cutaneous positive in 6 (average diameter 6.3 mm.) and negative in 6 (positive on repetition; average diameter 9.5 mm.), the percutaneous applied to 3 (3 traces), the subcutaneous test was positive in 9 cases (one responding to 0.1 mg., 2 to 0.5 mg., 2 to 3 mg. and 4 cases to 5 mg.); average rise of temperature after the injection, 1.5; average dose of tuberculin used, 3 mg.; no focal reactions observed; symptoms in 7; reinflammation of 6 conjunctival (3+, 3++) and 4 cutaneous (average diameter, 25.4 mm.).

5. In 9 cases of the same class, with the conjunctival test negative (6+ on repetition in the other eye), the cutaneous rapid and marked (average diameter 16.9 mm.), the percutaneous applied to 3 (3 slight), the subcutaneous was positive in 9 (3 cases to 1 mg. and 6 to 3 mg.); focal reaction in 2; symptoms in 9; average rise of temperature after the injection, 0.9 F.; average dose of tuberculin, 2.3 mg.; reinflammation of 4 conjunctival reactions (3+, 1++) and 6 cutaneous (average diameter, 25.4 mm.).

6. In 12 cases, with the conjunctival negative in 9, trace in 3 (6 of the negative+ on repetition); the cutaneous negative in 9, trace in 3 (5 of the negative became positive on repetition, with 9.5 mm. as the average diameter); the percutaneous positive in one out of 4, the subcutaneous test was negative in 6 (to 5 mg.) and positive in 6 (one to 1/5 mg. and 5 to 5 mg.). The average rise of temperature after the injection was 1.6 F.; average dose of tuberculin, 4.7 mg.; symptoms in 4; focal reaction in one (with 1/5 mg.); reinflammation of 5 conjunctival (2 trace, 3+) and 4 cutaneous (average diameter, 9.5 mm.).

An analysis of these cases points to the high probability of positive subcutaneous reaction with correspondingly smaller doses of tuberculin in a large number of cases reacting promptly and distinctly to the cutaneous test; hence the relative value of the marked cutaneous reaction as a positive test in cases in which the subcutaneous test cannot be applied for various reasons.

The focal reaction occurred in only 10 per cent. of cases tested subcutaneously; adding to this number an experience with thirty more positive hypodermic tests in incipient pulmonary cases, we get in all 12 per cent. of focal reactions under the average conditions of observation.

In the light of the autopsy experience of von Pirquet, Wolff-Eisner, Calmette and others, the cutaneous tuberculin reaction in adults discloses tuberculosis only in the anatomic sense; the test, with its present method of application, sheds little or no light on the active or latent character of the tuberculous lesion.

Where a focal reaction is desired (and that can be obtained in only a certain percentage of cases) the cutaneous test cannot supplant the hypodermic. It can be used, however, as a preliminary diagnostic measure, being absolutely harmless, compared with the conjunctival test, and more reliable than the percutaneous reaction, which fails in a large number of cases.

CONCLUSIONS

1. A vast amount of clinical experience, gathered by numerous observers and substantiated in a proportion of cases by post-mortem findings, points to specificity of the local tuberculin reactions.

2. The verdict of to-day is that a positive reaction, following the local application of tuberculin (conjunctival or cutaneous) signifies the existence of a tuberculous focus somewhere in the organism, without giving a definite idea of the active or latent character of the process.

3. Reactions occurring on application of tuberculin differ in their degree according to various sites of the body selected as points of inoculation; a comparative study of the results obtained by numerous observers is possible only with a clear description in each individual case of the site practiced on.

4. The results of cutaneous tests performed with various dilutions of tuberculin contribute to the belief that the actual amount of absorbed tuberculin is a factor of importance in determining the degree of the reaction.

Sufficient evidence has not been produced so far to substantiate the claim that a positive conjunctival reaction signifies active tuberculous disease. The possibility, however, exists, that activity of a tuberculous process may be a factor in causing a positive local reaction with a minimal dose of tuberculin, under certain conditions of the power of response. Hence the failure of the conjunctival test in the clinically healthy and its uniform occurrence in the clinically tuberculous (barring the very advanced cases, etc.).

If this contention has any foundation, a positive cutaneous reaction ought to be possible in active cases of tuberculosis, with minimal doses of tuberculin (greater dilutions).

Further experience with the cutaneous test, with various dilutions of tuberculin, applied to various groups of cases, with a perfected technic, assuring thorough absorption of a definite quantity, may possibly lead to some method of differentiation of active and latent cases.

5. Cases of suspected tuberculosis, in which the cutaneous reaction is rapid in development and marked in degree, generally respond readily to the subcutaneous injections of minimal doses of tuberculin; hence the relative value of the cutaneous tuberculin test in cases in which the employment of the subcutaneous test is for some reason contraindicated.

6. The subcutaneous test remains the decisive diagnostic procedure in doubtful cases of tuberculosis, particularly if a focal reaction is desired. The possible unfavorable effects of this test in some cases may be avoided by the use of small doses of tuberculin (initial 1/5 or even 1/10 mg.), according to the age and condition of the patient.

7. The work of von Pirquet, Wolff-Eisner and Calmette opened a new field for further clinical and laboratory research, out of which may be evolved a safe, reliable method of diagnosis of the obscure and the very incipient cases of tuberculosis.

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Chancre.—The syphilitic chancre should never be cauterized. The destruction is often extensive and the result frequently undesirable.—A. G. Nadler, in *Yale Medical Journal.*

THE MODERN TREATMENT OF SYPHILIS, WITH REFERENCE TO THE RECENT SYNTHETIC PREPARATIONS*

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The enormous number of cases of late syphilis and parasyphilis prove that the classical treatment of lues by the old remedies, as usually employed, is inadequate. This cannot altogether be attributed to a lack of potency on the part of the drugs, but rather to a combination of factors referable to the physician or the patient, or both. It is not my desire to discuss the shortcomings of my colleagues, but rather to call attention to some of the causes which contribute to the failure to control this disease. Of these, there are two which should be especially emphasized, namely, the tendency to regard syphilis as a mild infection with laxity in carrying out its treatment, and secondly, the lack of familiarity with the possibilities of the specific drugs.

For years it was taught in one of our large institutions that the malady is an insignificant one. The dissemination of such teaching among hundreds of students certainly was not in the interest of luetic patients. Views on the benign nature of syphilis are often promulgated by men who are familiar with only one side of the affection. They encounter, for example, chronic ulcerative processes of the skin in patients otherwise in good health and parents of healthy children, and entirely forget that there is a more serious side. An observation of a large number of cases in private and hospital practice from various parts of the country has impressed me with the want of familiarity of the general practitioner with the manifestations of the disease. This is emphasized by the surgical operations frequently performed for luetic affections of the joints, tongue, larynx, testicle, etc., under the mistaken diagnosis of tuberculosis, malignant disease or some other infection. Again, ulcerating and destructive lesions are permitted to proceed to extensive deformity or loss of function before the nature of the trouble is even suspected. This is perhaps due to the fact that we do not give students in our medical schools a comprehensive knowledge of syphilis. Its teaching is scattered through so many departments that when the graduate leaves his school he is possessed, it is true, of a fragmentary knowledge of the cutaneous, nervous, surgical and visceral manifestations he has been taught by the respective chairs, but he has altogether failed to appreciate its significance or to obtain a grasp of the subject. It would seem that the establishment of a chair in syphilology, which would enable one to teach in a comprehensive manner what the infection may do, would be a decided advance in our pedagogic methods.

In seeking to account for the vast amount of uncured syphilis, we must remember, too, that the patient often is culpable in his lack of cooperation. He either fails to carry out properly directions as to treatment and hygiene, falls a prey to the various quacks, pathies, etc., or after outward manifestations disappear neglects all treatment and reverts to his old habits and indulgences.

In addition, there is the fairly large group of so-called unrecognized syphilis, which, according to Fournier's statistics, forms 3.1 per cent. of the men and 17.9 per cent. of all women infected. This is due to the possible absence or insignificance of the primary sore, the absence of induration, multiform and atypical lesions simulating other conditions, chancres in unusual or out-of-the-way localities, and to syphilis acquired in pregnancy, in which cases the initial lesion, and often the secondary symptoms, are wanting. In these cases, in which the primary stage is ignored, the secondary stage may be so mild that it is entirely overlooked and the diagnosis of infection is not made until years after when some lesion of the nervous system or ulcerative lesions of the skin develop.

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* Read before the Society of the Alumni of St. Luke's Hospital, New York City, Dec. 17, 1910.

After eliminating all the foregoing factors ranged on the negative side of treatment, there still remains a percentage of patients who develop these so-called parasyphilitic manifestations and obstinate cutaneous and mucous membrane lesions in spite of treatment extending over a period of years. The treatment of syphilis, however, is not a matter of years or the administration of a certain quantity of mercury and potassium iodid, but is one of controlling the lesions and serum reaction until after the cessation of all treatment, a persistent negative Wassermann reaction is obtained. The old method of administering mercury internally in small doses over long periods of time is not only inefficient, but, in the light of recent developments, is harmful in the possible cultivation of mercury-fast strains of spirochetes. This may account for the failure, in many old cases, to respond to this drug, and for a large proportion of the nervous and other affections in subjects who claim to have taken the remedy over intervals of years.

It is impossible from its course in the early part of the infection to predict the outcome of this disease. It was for a long time thought that severe late symptoms often followed mild early attacks, but from an analysis of a large number of cases it is seen that all forms antedate the severe nervous affections. The so-called benign type has probably been overlooked in the early stages or had inadequate treatment or none at all. In those cases which develop, even after vigorous specific treatment, early lesions of the nervous system, there may be a predisposition on the part of the individual or a congenital lack of resistance referable to the tissue. It is rare, in acquired syphilis, to see the severe involvement of more than one system. In the individual with extensive cutaneous or osseous lesions the nervous system usually escapes and the converse is equally true. Whether the symptoms are benign or malignant, it should be borne in mind that we are dealing with one of the gravest infections, the ramifications of which extend to every branch of medicine, and affect not only the original sufferer, but the family and state. The expense to the state alone for its institutional care of subjects suffering from one form or another of this disease is enormous, while personal and business loss are incalculable. The immense number of mental, physical, and moral defectives, the issue of luetic parents, are a reflection on the diagnostic powers and therapeutic skill of the medical profession.

Fortunately, with such aids to diagnosis as the dark-field illumination and the Wassermann test, the time has gone by when we wait for the development of secondary symptoms to establish the true nature of the affection. The Wassermann reaction in some cases becomes positive as early as three weeks after primary infection, and Hoffmann has demonstrated the spirochetes in the blood three weeks before the outbreak of the constitutional disease. It is, however, simpler to demonstrate the organism in the lesion itself either by means of the dark field or the Burri (India ink) stain. The intensity of treatment in the first six months determines probably the future outcome of the infection. We find that the Wassermann becomes negative much more quickly in patients treated from the very beginning than in those seen later.

Numerous attempts have been made to abort syphilis either by local treatment or by the injection of arsenical compounds. With the former method French investigators have been successful in several instances, but the results have not been sufficiently uniform to warrant its general practice. In 1907 Metchnikoff stated that three injections of atoxyl of 10 grains each would prevent the further development of chancre. To verify this, Lambkin, of the British Army, injected every second man who was infected, with atoxyl or soamin, but failed to control the development of the disease. Greater, although not constant, success has been obtained from the use of the Ehrlich-Hata preparation, but this will be dealt with later.

In the treatment of syphilis with mercury, a vast number of practitioners still rely on the ingestion method, giving bichlorid or protoiodid pills, gray powder, or even mixed treatment in the early stage. Experience has proved that this method is wholly inadequate and that the best results are obtained when the drug is administered by intramuscular injection or by inunction or a combination of both. As a rule, when a rapid effect is desired, it may be obtained by injections of bichlorid of mercury given every other day, but when this is not imperative, it is of advantage to the patient to use the insoluble salt. In my opinion success in treatment depends on a knowledge of the possibilities of the preparation one is using. Every physician should become familiar with some one of the products of mercury, whether it be the salicylate, bichlorid, calomel or gray oil. Practitioners are so besieged by agents of new preparations that before they have learned the use of one they abandon it for another and never become familiar with any. Mercury having been in use for about four hundred years, syphilologists know its possibilities and limitations. It is, therefore, a little premature to depose it from its rank of first specific, notwithstanding recent therapeutic advances and the almost magical effects produced by some of the arsenical compounds, especially salvarsan. Without discrediting Ehrlich's discovery we must not, in our anxiety for a remedy which shall fulfill his ideal, ignore the fact that mercury, too, yields clinical results which sometimes border on the marvelous. Its action on the *Spirochæta pallida* is beyond question, and its rapidity is illustrated by Lambkin's observation that the organisms, which were very numerous before, disappeared from the lesion in about two days after an intramuscular injection of one grain of metallic mercury. In addition to this direct action, mercury is believed to increase the defenses of the body by the formation of alexins to neutralize the specific virus. This influence of the drug on the disease is seen when treatment is begun early, not only in its control but in its preventive action. The important thing to determine is the degree of intensity in the treatment of each individual. In some patients one grain of salicylate of mercury given at weekly intervals will cause a rapid disappearance of the lesions, while others will yield only when two grains or more are administered. We must learn the dose for each individual without the production of bad effects.

Although it has been taught for years that potassium iodid is not a specific in the true sense of the word, and that it has no indications in the early stage except in malignant forms, one sees it given only too frequently alone or in mixed treatment for early cutaneous and mucous membrane lesions which would disappear under a properly directed course of mercury. Potassium iodid is a valuable adjunct to mercury, by virtue of its power to bring about absorption of the specific infiltrate, and is indicated in those lesions of the late secondary and tertiary stages which do not yield to mercury alone. This refractoriness may be explained on a histologic basis, for under the microscope we find in these syphilomas many giant cells, the result of vascular changes, as well as simple thrombosis of the vessels. The assumption, then, is that the iodid brings about a resolution of the partially organized tissue and infiltrate, the vessels again become pervious and the mercury is able to penetrate to the spirochetes. As the same organisms are present in both early and late syphilis, there is no logical reason why mercury, if it gains access to the organism, should not prove as efficacious in one stage as in another.

Before the introduction of the arylarsonates, arsenic was for years given by dermatologists and syphilologists in syphilis, not only for its supposed specific action on certain obstinate cutaneous manifestations, as the scaling syphilid of the palm, but because of its tonic and alterative effect. In these cases it was given in the form of Fowler's solution, Donovan's solution and arsenious acid. With the discovery of atoxyl by Béchamp and its successful employment in sleeping-sickness by Thomas and Kopke, the use of arsenic in syphilis received a renewed stimulus. This preparation, incorrectly asserted to be a meta-arsenic-anilid, containing about 25.7 per cent. arsenic, was successful in the cure of syphilis in animals, and in the human subject had a marked effect on some of the lesions. It was soon found, however, that the remedy was unsafe and that severe toxic symptoms might follow its administration, such as nausea, vomiting, gastro-intestinal pains, neuritic pains in the limbs, and, chief and most serious of all, optic neuritis followed by blindness. Of 1,633 patients with sleeping-sickness treated by Koch, twenty-two became blind—a percentage of 1.5. Steindorff has collected from the literature reports of ninety-five cases of blindness which followed the use of this drug. The toxic symptoms have been ascribed to impurities in the drug and to the large amount of arsenic introduced into the system. Salmon, who reported very favorable results, advised 0.75 gm., two days later 0.6 gm., three days after 0.5 gm., and then a period of rest. Kurdener gave as much as 50 gm. in seven weeks. Schlect administered 2.4 gm. to a patient in one week; severe toxic symptoms developed on the eighth day, followed by death. The eye symptoms usually appear early; that is, within a few weeks of treatment; exceptionally after a number of months. Nonne treated a woman, aged 37, the subject of general carcinosis, with slowly increasing doses of only 0.06 to 0.35 gm. After four weeks visual disturbances set in which quickly led to blindness; the patient suffered also from headache, vertigo and nausea. When necropsy was performed, a short time afterward, a parenchymatous degeneration of the optic fibers was found. In another patient, a hereditary syphilitic, aged 54, with arteriosclerosis, nephritis and disseminated chorioiditis, treated by Coppez, amblyopia developed after a single injection of 0.05 gm., five injections culminating in complete blindness.

The first ocular symptoms appear to be a scintillation, cloudiness and diminished vision; the visual field becomes concentrically contracted, often more on the nasal than on the temporal side. With the appearance of the first subjective symptoms the ophthalmoscopic examination is negative or the retinal arteries may be more or less narrowed; the veins may be hyperemic or contracted; after a few weeks the papillæ become pale and with amazing rapidity complete atrophy sets in. The pupils, which react for a long time, become dilated and then rigid.

From the observations of Nicolle, Mesnil and Nierenstein, the arsenical compounds owe their efficacy not to the arsenic but to the amido group, which is also present in various dyes as trypan red, parafuchsin, etc., which do not contain arsenic but have a similar action on trypanosomes as atoxyl. According to Ehrlich, atoxyl owes its action to a reduction substance in the body, which he called para-amido-phenyl-arsen-oxid. A preparation, chemically identical with atoxyl, sodium amino-phenyl-arsonate, was placed on the market under the name of soamin. It contains 22.8 per cent. of organic arsenic and its toxicity is believed to be one-fortieth that of arsenious acid. A fresh solution of this preparation is made before use and given intramuscularly every other day in doses of 10 grains each until 100 grains are administered. Lambkin reported that he treated seventy patients, all of whom did well and immediately gained in weight. He found the most beneficial effects of the drug in ulcerations of the mouth, tongue, throat and vegetating condylomas, and said there had been a noticeable absence of sore throat since this treatment was begun. While he had no accidents, blindness, as in the case of atoxyl, is reported from other sources. Lane mentions four supervening after this treatment. Other by-effects are intestinal cramps, nausea and vomiting. I was advised, in a personal communication from a physician in New York, that in a patient who was given daily doses of 1 to 10 grains for rheumatism until a series of 100 grains was administered, blindness resulted, which was, however, only transient. This same physician also treated ten patients with syphilis with a dosage varying from 5 to 9 grains until the course of 100 grains was given, which was then repeated after a period of rest. Except in the case cited, he had noted no other ocular disturbances.

The substitution product arsacetin, introduced by Ehrlich, under the chemical name of sodium-acetyl-phenyl-arsenate, was also employed in solution, in a dosage of 8 to 10 grains every other day until a total of 100 grains was reached. It was superseded by arseno-phenyl-glycin, which was found to be very effective in the atoxyl resistant trypanosomes in mice. From Alt we learn of its effects in syphilis, as he used the drug most extensively. The sequel to this in the attainment, as it was believed, of Ehrlich's ideal in a *therapia sterilisans magna*, is now so well-known that a repetition of the history of arsenobenzol or salvarsan, its commercial name, will be omitted.

Experience in the treatment of syphilis with the Ehrlich-Hata preparation has now been sufficiently extensive to enable us to draw certain conclusions regarding the effects of the drug and to cause us to modify some of the very enthusiastic early reports as to its curative properties. The impression so widely prevalent when Ehrlich first announced his discovery, that it would be possible with one dose thoroughly to eradicate the infection, may be true in a limited number of cases, but the relapses which have taken place in a certain percentage have proved that this opinion was premature. Furthermore, the opinion that patients might acquire a susceptibility to the drug is likewise erroneous, since it has been repeated in some cases as many as seven times, not with an increased intolerance, but on the contrary with a diminished reaction to each dose.

Including the first series treated by Dr. Nichols and me at the City Hospital, the drug has been administered in eighty-four cases. Of these there were:

Two patients with initial lesion only, seven with chancre and secondaries, eighteen with early secondaries, nine with late secondaries, seventeen with tertiaries, eighteen cases of tabes, two cases of cerebral endarteritis, three cases of optic neuritis, one case of paresis, three cases of hereditary lues, four latent cases with a positive Wassermann reaction.

The dose employed has varied from 0.3 to 0.6 gm. In the early cases treated at the City Hospital the minimum dose was administered, in some, with brilliant results. These cases were treated with the alkaline solution injected into the gluteal muscles; the next twenty-seven patients were treated with the neutral suspension according to Wechselmann. Objections to the latter mode of administration, such as the persistence of the swelling for weeks, the slow absorption and less rapid effects, turned the scales again in favor of the original method of giving the remedy in alkaline solution. In the majority of cases the injection is followed by pain, which is usually severe enough to require morphin for its control. After twelve hours, however, patients are quite comfortable, although in some instances the pain may persist for three or four days or longer. The pain is especially severe in tabetics and is often generalized; in some cases it is absent, probably on account of anesthesia. The general reaction is manifested by a rise of temperature from normal to 101 F., and a corresponding increase in the pulse-rate. The cases in which the local and general reaction are unusually severe have been attributed by Wechselmann to a tissue or general susceptibility to the drug. An illustration of the latter was met in a woman who was treated with 0.6 gm. Her temperature on the first and second days followed the typical curve, but on the sixth day it suddenly rose from 99 to 102.4 F., and continued until the next day, when it reached 102.8 F., and she developed a generalized scarlatiniform eruption. A patient admitted to the hospital who had taken rough-on-rats developed at the same time a similar eruption with a temperature running about the same course. The suspicion of intercurrent scarlatina in both cases was so strong that a representative of the health board was called in for a diagnosis. Both cases were interpreted as toxic erythemas due to arsenic. Similar ones have been reported by other observers.

Within the last two weeks I have administered the drug intravenously and have been much impressed by the entire absence of pain following this method. In some of the cases the reaction has been very slight, the temperature not going above 100.5 F., and gastro-intestinal symptoms were absent. In one case, within two hours after the administration of the remedy in this manner, a severe chill developed, followed by a rise of temperature of 105 F. and vomiting which persisted for several hours. On the following day, however, the temperature was normal and no further symptoms were noted. A comparison of the intravenous with the intramuscular method shows the superiority of the former, not only in the comfort of the patient, but in the rapidity of its action; and I believe that this mode of administration will have the preference in future.

The effects of salvarsan on primary lesions are very striking. In a young man with three labial chancres, treated on June 2 with 0.3 gm., the lesions disappeared in ten days and his Wassermann reaction is still negative. The only other treatment he had had was two injections of salicylate of mercury. A physician who had infected both hands while operating showed little trace of the lesions one week after the injection. In another physician with a fungating chancre of the finger, a communicating lymphangitis and an enormous mass of lymph-nodes in the axilla, together with a maculopapular eruption of the body, all manifestations disappeared in about two weeks. If the drug is administered early in the primary stage it may be possible to abort the disease. This is illustrated by a patient who received an injection of 0.6 gm. for a primary sore one week old. The erosion healed in two or three days, no secondaries have appeared and his Wassermann reaction is negative.

The most brilliant results with salvarsan, however, are seen in mucous membrane lesions, which show an effect as early as twenty-four to forty-eight hours. In a patient with papules on the tongue, tonsils and pillars of the fauces, rendering deglutition very painful and requiring the use of a local anesthetic, relief was obtained in forty-eight hours, and in a week the mucous patches had all disappeared. This patient had taken mercury for months, under which the lesions would heal temporarily, but if it was omitted for two or three days they would return. Since the use of salvarsan they have remained away up to the present time. Of the cutaneous manifestations, a marked macular eruption was seen to disappear in one week and papular lesions to flatten down in a few days. Scaling syphilids of the palm and sole, which are notoriously obstinate to mercury, respond very quickly to salvarsan. These are the cases in which the combined use of arsenic and mercury is more beneficial than the old treatment. The action of the drug on gummatous lesions is equally impressive, healing often taking place in a week. In one patient with an ulcerating nodular lesion of the leg, of the size of a hand, cicatrization was practically complete at the end of three weeks. In another patient with a gummatous infiltration of the leg of six years' duration and pseudo-elephantiasis of the foot and ankle, after a single injection of 0.5 gm. the infiltration was absorbed in two weeks and the leg returned practically to its normal size.

Bone lesions also undergo resolution very quickly, but as they also disappear rapidly under mixed treatment, it is difficult to draw a fair comparison between the two remedies. The comparison is more apt in the case of malignant syphilis with multiple bone involvement, which did not yield to mercury but was markedly influenced by the arsenical preparation.

The treatment of eighteen cases of tabes has not been very encouraging. The majority of these were, however, of the degenerative type, and the drug was given only at the urgent solicitation of the patient In several there was a marked improvement in the pains, which had been very distressing before. It is not at all improbable that in certain tabetic cases in which benefit was reported, a combination of active specific process and secondary degeneration, as suggested by Nonne, was present. In these the meningeal infiltration would be affected, but the degenerative changes would remain uninfluenced. In a case of gumma of the meninges involving the lateral columns, coming on within two years after infection, with marked spastic gait, sensory disturbances on the left side, motor disturbances on the right and atrophy of the muscles of the right lower extremity, betterment in his station, gait and strength was very considerable, but as only two weeks have elapsed since the drug was administered, there is strong hope that his improvement will continue. A similar result in these cases is often observed after bichlorid injections.

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In view of the fact that the organic arsenical compounds may lead to the production of optic atrophy, an observation of the development of that condition in the early stage of lues is a matter of exceeding interest. It is difficult to obtain from text-books on the eye or on syphilis any very definite data as to the time after infection when these cases develop. The optic atrophies which occur in the late stages of syphilis and usually precede tabetic manifestations by years, probably belong to the parasyphilitic group, while those which occur in the early stage are the result of an acute inflammatory process.

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In this connection I wish to report the case of a physician who was treated on October 7 for a digital initial lesion and secondary eruption with 0.6 gm. of the Ehrlich-Hata preparation. Prompt regression of his symptoms took place, but in the latter part of November he suddenly developed a choked disk, closely simulating the condition in the man cited above who had been on mercurial treatment for nine months. It would be just as fair to assume in the latter case that the neuritis was due to the mercury as that the arsenic was at fault in the former. Still, the suspicion that it may have been responsible cannot wholly be allayed in view of visual disturbances reported from Finger's clinic. As this is a very important and perhaps the only dangerous phase of the treatment, the following cases, reports of which have already been published, will be quoted in detail:

Case 1.—A robust peasant girl of 19; infection 8 weeks old; multiple scleroses and beginning roseola. August 2 she received 0.45 gm. neutral suspension intragluteally. The clinical manifestations disappeared quickly and by September 30 the Wassermann reaction was negative. October 5 she returned with headache, vertigo, visual disturbances, right-sided oculomotor paresis, beginning optic neuritis of the left eye; Wassermann again positive. Her condition was considered a recurrence, for which she was given October 12, 0.45 gm. in acid solution subcutaneously. October 28 she was placed on mercury and potassium iodid but without result, and neuritis of the right optic nerve set in.

Case 2.—Girl, aged 19; infection of two and one-half months' duration, for which she received, July 20, 0.4 gm. neutral suspension. By August 5 all clinical manifestations had regressed, but she returned October 18 with visual disturbances and abducens paresis.

Case 3.—Man, *aged 22; infection two years.* He had been *treated with mercury and potassium iodid, thirty injections* of arsacetin and 18 of enesol. July 6 he was given 0.4 gm. for gummata of the nose and pharynx. September 5 he had a recurrence; October 5 visual disturbances, sluggish pupils, bilateral concentrically contracted field and beginning atrophy.

Case 4.—Man aged 28; lues five months. He was given an injection of 0.45 gm. August 8; October 3 the Wassermann reaction was negative. November 10 he developed chorioiditis of the right eye.

As he has not noted similar manifestations after the use of mercury, Finger is very much puzzled as to the interpretation of these cases. He believes there is either a direct relationship between the arseno-benzol and the eye symptoms or possibly a combination of lues and action of the drug.

Fehr, according to Wechselmann, examined a large number of patients with syphilis during the early secondary period and found in 2 to 3 per cent. of them neuritis, without any subjective visual disturbance. An incomplete cure of these specific changes it is thought later lead to degenerative processes of the nerve. Wechselmann is inclined to look on the ocular conditions developing after the administration of salvarsan as recurrences of the disease, as it has been suggested that after such treatment relapses show a predilection for the eye. Kowalewski reports the case of a woman treated with the Ehrlich-Hata remedy in May; in July she developed severe headache and ten days later ocular disturbances. A month later the ophthalmoscope showed a typical descending perineuritis. This he regarded as a recurrence of the disease, and under inunctions her vision was restored to practically normal. It has just come to my knowledge that a patient treated by me October 24 for an early secondary eruption developed an iritis about a week ago, which is now yielding to injections of bichlorid.

A number of ophthalmologists with whom I have discussed the effects of the arsenical preparations on the eye have expressed the opinion, almost unanimously, that one would expect rather a primary degeneration of the optic nerve, similar to that which follows after methyl alcohol, than an acute inflammatory process. When choked disk and retinal hemorrhage are present the condition would favor the diagnosis of a luetic process. It was thought that the serious objection to the other arsenical products in their action on the optic or vestibular nerves had been entirely removed in salvarsan, as no degenerative changes were found in any of the animals experimented on. It is not unusual in cases of syphilis to see active manifestations develop during the administration of mercury. I have noted in a patient who was treated with large doses of mercury by inunction the development of iritis in one eye, and in spite of its continued use, as much as 3 drams being rubbed in, the other eye became affected in a similar manner. The use of a specific drug, therefore, does not always safeguard the patient against relapse during its administration.

With the publicity that has recently been given to twenty thousand or more cases of syphilis, as closely observed as these have been, it would not be surprising if a good many more cases of optic neuritis or other ocular affections were brought to light than after the older methods of observation and treatment. The predilection of the syphilitic virus for the various structures of the eye should always be borne in mind, and the results of the disease not confused with those of the drug.

In hereditary syphilis, the remarkable therapeutic effect of the remedy is, perhaps, best illustrated by citing the following case of a little girl, aged 11. From the history, when she was 11 months old she had a bullous eruption of the feet; when 2 years old apoplexy of the right side which lasted ten months; she recovered and had a second attack. Epileptiform seizures began one year previously to being seen. In March, 1910, she developed a keratitis and her hearing became affected. She had a marked osteochondritis of the wrists and dactylitis of the left index and right middle and ring fingers. Her teeth were of the Hutchinson type; knee-jerks slightly exaggerated; Babinski present, more marked on the right side; Wassermann reaction strongly positive. An acute attack of keratitis developed just before the injection was given. On December 16 she received 0.35 gm. On the seventeenth there was a marked improvement in her eye and pain was absent from her fingers and wrists, which had been exquisitely tender before. When she returned home on the twenty-third her eye had practically cleared up, her hearing was improved and the swelling of the joints was reduced one-half.

In a hereditary syphilitic, aged 23, with an old keratitis and positive Wassermann reaction, no objective improvement occurred, although the patient maintained that her vision had materially increased.

In a cachectic infant with scaling syphilids of the palms and soles, the lesions disappeared and the nutrition was considerably improved with a dose of 0.06 gm.

The results with the Wassermann reaction have varied within very wide limits. As the majority of patients treated have been out-of-town patients, it has been impossible to follow them carefully serologically, and therefore a satisfactory estimate cannot be given. In general, a change took place in four to five weeks. Six days is the earliest period recorded for a patient who had had mercurial treatment before. Another case, although two injections had been given, did not become negative until the end of fifty-two days; a second case with two injections was still positive after seventy-four days, and in a third with a second dose 102 days have elapsed without obtaining a negative reaction. A reaction that became negative in twenty-six days, later was positive again. A patient with an early initial lesion with a weakly positive reaction before treatment, became strongly positive after, but is now negative and no secondary symptoms have developed. Several cases showed alternating negative and positive phases.

SUMMARY

Except in a limited number of cases, salvarsan in a single dose has not fulfilled its promise of a specific in human syphilis. It is, however, a most efficient agent in controlling the early manifestations of the disease and in limiting the contagious stage. As mucous patches and condylomata are the active carriers of the contagion, and most of the cases of infection occur through them, the value of the drug in cutting short this period cannot be overestimated. A therapeutic blow struck in the early stage when the spirochetes are numerous must have a marked effect on the subsequent development of the disease.

The result of one injection is fully equal to that of a prolonged course of mercury in the early stage and to a combination of mercury and potassium iodid in the later stage, with the advantage that we avoid the unpleasant by-effects of mercury, such as salivation. It is especially valuable in combating emergencies, as illustrated in the case of choked disk; in malignant syphilis; in hereditary syphilis; and in those cases which are refractory to mercury.

The objections to its use are the pain which immediately follows the injection, the hospital care necessitated, and the present uncertainty in regard to its possible injury to the eye. Administration by the intravenous method entirely obviates the first objection and it will doubtless be the method of choice in the future. It is, however, more difficult and requires more technical skill.

Where an intensive treatment of syphilis is indicated some authorities are advocating two intravenous injections of salvarsan at intervals of a week followed by an intramuscular injection of an oil suspension.

There is an impression among physicians that it is desirable to avoid mercury for a period before and after the administration of salvarsan. This is without foundation, as in the majority of cases patients who have been treated with mercury do better than when the remedy is given alone. A previous or subsequent mercurial treatment also influences the Wassermann reaction more favorably. This supports Ehrlich's contention that the organisms have more than one chemoreceptor and that the contagion can be attacked from more than one side. In cases in which the Wassermann reaction does not become negative at the end of four or five weeks, and it is not practicable to give a second dose of salvarsan, I am now advising a course of mercury.

If, by combining the mercurial treatment with salvarsan, we can accomplish a cure of this infection in six months and obtain repeated negative serum reactions, our views regarding the length of time that must intervene between the onset of this disease and marriage may be materially modified. We are not yet, however, in a position to issue any dogmatic rules regarding this very vital question.

Until we know more of the possibilities of the drug with regard to the eye, an attitude of conservatism should be preserved. It would be better, therefore, for the present not to employ it as routine treatment, but only in cases in which it is especially indicated, observing carefully the precautions laid down by Professor Ehrlich. Every patient should be examined by an ophthalmologist before the drug is administered, and had been very distressing before. It is not at all improbable that in certain tabetic cases in which benefit was reported, a combination of active specific process and secondary degeneration, as suggested by Nonne, was present. In these the meningeal infiltration would be affected, but the degenerative changes would remain uninfluenced. In a case of gumma of the meninges involving the lateral columns, coming on within two years after infection, with marked spastic gait, sensory disturbances on the left side, motor disturbances on the right and atrophy of the muscles of the right lower extremity, betterment in his station, gait and strength was very considerable, but as only two weeks have elapsed since the drug was administered, there is strong hope that his improvement will continue. A similar result in these cases is often observed after bichlorid injections.

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8 West Seventy-Seventh Street.

TREATMENT OF THE PAINS OF ACUTE ANTERIOR POLIOMYELITIS

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Formerly, pain was not considered an important symptom of infantile paralysis; but in the recent epidemics in Europe and America it has been a prominent feature in many cases. The New York committee reported that it was marked in 50 per cent. of the cases they analyzed, and that it was sometimes excruciating, and often lasted for weeks.

As meningitis is emphasized in the report of this committee as a feature of the morbid invasion, it might be inferred that the sole cause of the pain manifested is irritation of the meninges. It is to be regretted that the committee is not explicit on this point; but it may be inferred from the emphatic recommendation of suspension in a warm bath in order to remove the pain, that meningitis cannot be the explanation of certain of the pains at least, for no mechanical measures are capable of allaying the irritations of inflamed meninges.

My observations during the present epidemic in Washington have shown me that there are two distinct types of pain resulting from poliomyelitis. The first is that due to meningitis, of which I have nothing further to say. The second is due to the nutritional and mechanical effects which follow destruction and interference with the neurons which govern the muscles. It finds its analogy in the normal pain and tire which result from cramped positions or prolonged exertion. It is due to stretching and sagging of muscles and joints, and can be experimentally produced very easily in shoulder. elbow and wrist by holding in the hand a heavy weight while the muscles are relaxed. The atony of the muscles is further favored by this passive stretching which, too, increases the pain.

The best proof that this is the real nature of the majority of the prolonged pains after poliomyelitis is afforded by the methods which most readily relieve them. These all depend on the principle of relieving stretching and sagging of muscles, tendons and joints with their fasciæ.

The methods used are galvanic electricity, suspension and support. Of these galvanic electricity is the most efficacious because it responds to the most insistent physiologic need, that for exercise of paralyzed muscles. The passive exercise afforded by massage does not excite the contractile function of the muscle fibers, and when this function is in abeyance, atrophy of the muscle cells occurs. Galvanic electricity is the only means by which it can be prevented when there is degeneration of the motor nerves; no other therapeutic measure excites contractility.

I am aware that many text-books and electrotherapists advise the postponement of electricity for two months. This is an error due to a misconception of the pathology of the disease from a vague idea that electricity should not be applied in inflammatory states. But there is no inflammation either of muscle or nerve in this disease: these structures are affected by a degeneration secondary to an inflammation which implicates their cells of origin and which itself is interstitial, the cells being involved only on account of their contiguity to the diseased process. The pathology is unlike that of multiple neuritis, in which a toxin causes an active inflammation of the nerves themselves, which is of course aggravated by the functional activity excited by electrical currents or other stimuli.

To these considerations, I wish to add my experience in the application of galvanic electricity in the first week of the disease. So far from irritating, as inexact thinkers would have us believe on *a priori* grounds, it has afforded great relief, enabling the patient to pass into a tranquil sleep from a condition in which his most imperative desire is frequent change of position. After the paralyzed muscles of the limb have been made to contract by galvanism, positions which before were intolerable can be maintained with ease. In this way the prevention of contractures is much facilitated. The reason of this should be obvious enough; for contractures not due to weight of the parts are caused by the overcoming of a paralyzed muscle group by the tonicity of its antagonists.

Suspension in water also acts by relieving the torsions, stretchings and involuntary tightenings which are the accompaniments of even the best-devised supports in the most comfortable bed. Indeed the excess of these tensions has been invoked by some observers as a factor in neurasthenic states, and much benefit has accrued some patients through the adoption of a method of intentional relaxation during repose. But in no way can this be attained so completely as by the even pressure exerted by a surrounding fluid medium. So that, as it is not often expedient to galvanize the muscles more than once a day, the value of suspension in a warm bath is not exaggerated in the report of the New York committee. The third means of relief of abnormal tensions of muscles and fibrous tissue is the suspension or support of the trunk and limbs by a jacket, in slings and cradles or by pads and tilting of the bed.

Vibration, massage, passive movements and hydrotherapy, of course, maintain a place in the treatment as aids to nutrition and as imperfect substitutes for exercise and its substitute galvanism; but these measures are subsidiary only.

Remembering that degeneration commences within three days and is decided by the tenth day, and knowing that regeneration is a matter of months, the physician will be prepared for more and more recovery of voluntary movement for a prolonged period. But observers are agreed that the earliest possible utilization of each recovering or unimpaired muscle bundle is of great advantage. To this end, it is most important to encourage the patient to make efforts. In young children muscular control is poorly developed, and a determination to overcome difficulties has not become a characteristic. Hence, it is often the case that when only a few muscle bundles of one group are spared, the child will cease to innervate that from which he receives no result. To overcome this tendency the child's limb must be placed in the best possible position to manifest a movement visible to himself. The best of all situations is suspension in water; and this re-educational measure is the second advantage of systematic use of the warm bath.

But there is another factor in this re-education. A child will soon cease to engage himself in what he conceives to be an imposed task. But if it is made interesting for him, it will become a game; and he will per-severe in it without an irksome supervision or, what is even worse, a compulsory exaction of a task which would render the whole matter distasteful. Hence, all kinds of games must be devised and taught to the child; and these should be adapted to the needs imposed by the distribution of the paralysis.

Psychologic considerations are of great importance also in the after-care of a patient who remains paralyzed. A tendency to reticence and diffidence may have to be counteracted by providing active interests demanding social adjustments, the opportunity for which is apt to be curtailed in the case of a disabled child. On the other hand selfishness and the desire for unreasonable exactions may have to be overcome. Contact with the social environment must be fostered in every possible way. A small country town perhaps affords the best opportunity for these cases. The stagnating tendency which sometimes rules these patients may be neutralized by stories of men who have overcome physical infirmities; for, after all, the range of opportunity for a cripple in good health is not so limited as may appear at first sight. Of course, when a sedentary life has to be led every possible means must be used to obtain physical exercise and to avoid the cramped attitudes which favor poor oxidation and tuberculosis.

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SIMPLE COMPLETE TONSILLECTOMY

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That complete removal of the faucial tonsil with its investing capsule is the most satisfactory procedure, is the teaching of our best operators to-day. It is not my purpose or my pleasure to depart from this teaching, but on the other hand, after fourteen years of experience and the performance of almost every tonsil operation that seemed at all rational, I commend it the more. This being the case, it is my intention only to emphasize the simplicity with which this operation can be performed with a vertical snare, and at the same time accomplish the desired results.

In using the word "complete," I mean all the term implies, viz., freeing the tonsillar space by removing all the tonsil with its investing capsule intact. Anything short of this is bad surgery and should not be practiced, as clinical observations have clearly shown it to be of little or no permanent benefit.

The first thing to do is to ground oneself in the anatomic relations of those special parts of the throat, and the second, to keep inside the tonsillar space. The most prolific cause of hemorrhage is failing to get all of a fibrous tonsil, cutting the muscles with sharp instruments, or lacerating them with the finger or some dull instrument. A clear knowledge of the possible sources of hemorrhage will enable the operator to largely prevent its occurrence. Therefore note the following blood-supply:

The tonsillar artery, a branch of the facial, is the chief vessel to the tonsil, though the ascending palatine, a branch of the lingual, sometimes takes its place. The tonsillar artery passes upward on the outer side of the superior constrictor muscle to the tonsil and soft palate. The palatine artery also sends branches through the superior constrictor muscle to the tonsil. The ascending pharyngeal passes upward outside of the superior constrictor and gives off a correspondingly larger branch when the palatine artery is small.

The dorsalis linguæ, a branch of the lingual artery, ascends to the base of the tongue and sends branches to the tonsil and pillars of the fauces. The descending or posterior palatine artery, a branch of the inferior maxillary, supplies the tonsil and soft palate from above, forming anastomoses with the ascending palatine. The small meningeal artery sends branches to the tonsil, though they are of minor importance.

The fact, then, that the three principal arteries, viz., tonsillar ascending pharyngeal and ascending palatine, which supply the tonsil and pillars, pierce the superior constrictor muscle in their ramification to these parts, makes it important that the technic should be such as not to injure those muscles bounding the sinus tonsillaris by pulling them through the instrument and by cutting out sections with instruments cutting on the horizontal, by piercing them with sharp instruments, such as knives or scissors, or by lacerating them with blunt or dull instruments as previously stated. Hemorrhage, the dread of tonsil surgery, will be thus avoided.

There are a few, a very few, who can dextrously use the finger to dissect or divide the tonsil from the muscles without injury to the muscular structures, but I should advise, if you do not already know how, not to take it up, as too many throats will be sacrificed, at least to some extent, in learning.

In my judgment, tonsillectomy is a hospital, an office or a home operation, and I have had equally as good results when it was performed in office or home as when performed in the hospital. I certainly have no objections to the hospital, but have never deemed it necessary to impose this extra expense on patients unless I was fearful of their not receiving the proper care and attention at home.

Anesthesia may be local or general. I prefer local anesthesia, except for obvious reasons, to be decided by each surgeon, as personal elements enter largely into its consideration. For general anesthesia, I use ether exclusively, and for local use a 10 per cent. solution of cocain applied once or twice is sufficient, as too frequently applied, some toxic effect may result.

For injecting the tissue around the tonsil, solution of epinephrin and codein has given me good satisfaction. It should be injected at the upper, middle and lower portions of the anterior and posterior pillars respectively, and also in the supratonsillar fossa, one or two minims at each point, with an ordinary hypodermic syringe having an extension.

I generally prepare one tonsil and while it is becoming anesthetized, prepare the other, and by the time the second is prepared, the first is ready to be removed.

TECHNIC

Antiseptic precautions having previously been employed, I grasp the tonsil first prepared with tissue-vulsella forceps of my own design, one blade in the supratonsillar fossa and the other under the tonsil proper, and then by pressing the handles together a firm hold is secured on the tonsil. This special forceps gives a double hold and a tonsil is rarely, if ever, so friable as to allow the hold to tear out. If the tonsil is fibrous, there is both surface and deep hold which makes it doubly secure. I pull the tonsil inward and forward and if the fibrous bands are not united too densely to the anterior and posterior pillars no dissecting is necessary; but I release and insert the forceps through the tonsil snare, which is also of original design. Then I grasp the tonsil as previously stated, and pull it inward and forward, at the same time pushing the fender, which carries a No. 9 piano wire, backward and outward so as to bring the top of the fender in the supratonsillar fossa; in the meantime, the shaft acts as a tongue depressor and does away with the necessity of an assistant. I grip the handles of the snare, and as soon as the wire is released its tendency is backward and outward, following the tonsil back and cutting it off at its base, the point of least resistance. At the same time it does no possible injury to the anterior and posterior pillars or superior constrictor muscle, and avoiding the injury of these muscles, alarming hemorrhages need not be feared.

If the uvula, by accident, should have been pressed back by the fender, it will be released before the tension on the wire has become great enough to cut. Should the tonsil be fibrous and densely adherent, I dissect it loose from the borders of the anterior and posterior pillars with a wave-edged knife, so as not to impede too much the circuit of the wire in its course to the base of the tonsil, and proceed as previously stated, thus freeing the tonsillar space of all the tonsillar tissue with scarcely a trace of hemorrhage.

I have found this method most efficient and simple in performing *complete tonsillectomy.*

AFTER-TREATMENT

I swab the throat with a 12 per cent. mixture of phenol (carbolic acid) and glycerin. Ten to fifteen drops of phenol in eight ounces of water, to be used as a gargle as often as patient desires, makes a grateful wash. Ice held in the mouth or applied to the throat also makes a very grateful and beneficial means of allaying the pain and inflammation which naturally follows. Liquid diet should be ordered for the first three or four days, and quietude observed for the same length of time.

A CASE OF TABES DORSALIS WITHOUT ATAXIA *

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While not, as a rule, an early symptom, motor incoordination, as manifested in ataxia, is one of the most significant and distinctive phenomena of tabes dorsalis. Usually manifesting itself after months or years, it may appear in the course of days or weeks. The disturbance in function is in marked contrast with the preservation of gross muscular power, the strength of any individual movement being retained, at any rate for a considerable length of time, before wasting from disuse sets in. Almost invariably the lower extremities are involved first, exceptionally the upper extremities. The muscles of the trunk also may suffer, and rarely those of the face, lips and tongue. The muscles of the vocal bands are said to be involved not infrequently.

The case to be reported is of interest because of a total absence of ataxia, although the disease of the spinal cord appears to be at least of several years' duration.

A shirt-ironer, aged 30, married five years, came under observation Dec. 18, 1909; complaining of weakness and pain in the lower extremities, present for two and a half years, together with stabbing pain all over the body of only a few weeks' standing. The knee-jerks were absent, even with reinforcement, and the pupils were unequal (the right being the larger), contracting in accommodation, but remaining immobile on exposure to light. Station was steady, gait good, and coordination in the upper extremities was preserved. Sensibility appeared to be unaffected, and sexual desire and vigor were active. No visceral disturbance and no symptoms of mental derangement were present. A lymphatic gland was palpable in the left epitrochlear region and glands in the groin were enlarged. A shallow but extensive scar was visible on the head of the penis. The eye-grounds were normal, the disks oval and slightly pallid, and the balance of the ocular muscles was preserved. The patient admitted having had an attack of gonorrhea at the age of 23, but he denied knowledge of syphilitic infection. His wife has borne a child, now 4 years old. She had had no miscarriage and she was at the time of examination advanced five months in pregnancy.

Varied treatment had been employed, but without success. The case was considered possibly one of tabes, but the demonstration of the complement serum-reaction by Dr. E. P. Corson-White seemed to remove any diagnostic doubt, and a course of vigorous antisyphilitic treatment was instituted. Whether symptoms of general paresis will develop later cannot, of course, be foreseen.

Apart from the fact that motor incoordination may be due to causes other than disease of the posterior nerve-roots or sclerosis of the posterior columns of the spinal cord, this case exemplifies the wisdom of employing the term "tabes dorsalis" in preference to locomotor ataxia.

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WHAT BECOMES OF THE SPIROCHETES IN THE SECRETIONS?

A QUERY SUGGESTED BY EHRLICH'S "606" AND OFFERED AS A SUBJECT FOR INVESTIGATION

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This query may properly apply to other diseases and their therapy, but most particularly and by clearer illustration to syphilis: What becomes of the spirochetes on the free surfaces not reached by the remedy, or, perhaps it would be better to say, in the retained secretions and excretions?

Varying with the different stages of the disease, a certain number of the spirochetes will be found throughout the mucous surfaces. This means the mouth, the gastro-intestinal and rectal areas inclusive, and the Eustachian tubes. The vagina and endometrium must carry countless numbers. The seminal vesicles and prostatic follicles are to be borne in mind. Endothelial sacs such as the pericardium, the pleura, it is fair to assume, contain many of these wandering forms.

The spirochete has been demonstrated repeatedly in most of these secretions or excretions. Negative findings have been reported from the spinal fluid alone in the studies published. This does not by any means prove positively that the spirochetes are not present in the spinal fluid. It simply is an illustration of the fact that, if present, they are difficult of demonstration—a fact most easy of acceptance and comprehension to those familiar with the difficulties of such work. It is a perfectly fair and reasonable assumption, and on most points already proved, that the spirochete is in certain numbers present on all of these surfaces.

We know from many reported studies that the milk of a syphilitic mother to whom "606" has been administered, carries an almost imperceptible dose of arsenic to the nursing child. How much arsenic, if any, is to be found in the vaginal or pharyngeal mucus? How much in the seminal vesicles or the pleura? At best, there is not likely to be found more present than in the milk. The serous membranes belonging to the lymphatic circulation are probably theoretically well within the sweep of the *therapia sterilisans magna,* but this can hardly be true of the bronchi or uterine tract.

Now given body heat and moisture in some mucous cul-de-sac, how long may not this spirochete survive? Surely until long after the last of the "606" has been eliminated, which when given intravenously is in four days; with a longer time when administered intramuscularly.

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* Read before the Philadelphia Neurological Society, Nov. 25, 1910.

This, then is the substance of the query. The spirochete does exist in such localities. These localities offer favorable opportunity for shelter and growth. It is not a wild assumption that they may survive in such a cul-de-sac many days after the elimination of their antidote. What then becomes of them? Do they not possibly often reinfect the patient? Perhaps this has been an overlooked point in all the years of our treating syphilis by the old methods as well as new. Or do the increased antibodies meet and dispose of each surviving spirochete? It is a question that I have not seen touched on and one that certainly merits the careful consideration of some of our competent biologists.

TWO APPENDICES IN ONE PERSON

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On Nov. 7, 1910, I was called out of town to see Miss C. D., aged 21. She had been suffering intense abdominal pain accompanied with vomiting for three days. The abdomen was distended and tense; pulse 140; temperature 101. A diagnosis of acute suppurative appendicitis with peritonitis was made, and an operation advised. On opening the abdomen I found pus in the peritoneal cavity with no walling off; there were two appendices containing pus; one was ruptured. One appendix measured 3 by ⅜ inches, the other one 3½ by ⅜ inches. Their bases were 1¼ inches apart, and each had a mesoappendix. Drainage was instituted, the patient placed in the Fowler position and continuous rectal saline by the drop method was employed for five days. The patient made a slow recovery; at present is able to walk about the room.

Therapeutics

POSTOPERATIVE ROENTGENIZATION IN CANCER

Cancer is the most dreaded disease afflicting humanity to-day, because of its frequency, its resistance to the commonly accepted methods of management, and the pitiable condition to which it inevitably reduces its victims in the majority of cases. Any measure, therefore, which promises to increase our power over cancer is deserving of thorough trial, and when such a promise has been developed into a certainty that curative power is exhibited by such a measure, even if only in an occasional case it has vindicated its claim to be applied in every case, unless positive contra-indications exist.

The fact that the *x*-ray, when skilfully applied, has demonstrated such curative influence, only the most obtuse will deny to-day. Every radiotherapeutist who has attained sufficient knowledge and had sufficient experience to entitle him to the designation, endorses the above statement and recommends that the *x*-ray be applied, *as a routine measure,* without waiting for recurrence to take place, in conjunction with every operation for the removal of cancer. There is found some difference of opinion as to whether the application should be made before the operation, after the operation, or both before and after, but all agree that it should be made sometime, and that such application should sustain a more or less intimate time relation to the ablative procedure. The doubters of the curative power of the *x*-ray are not found in the ranks of those who know the agent.

But the surgeons are to-day the men who issue the supreme dicta as to how these cases shall be managed, and, unhappily, the vast majority of them are not sufficiently familiar with skilfully applied postoperative roentgenization in cancer to place their judgments above question. As a matter of strict fact, the average surgeon knows vastly less about the beneficent possibilities of this measure than does the roentgenologist or internist about those of ablative surgery. Whether the question involves the management of pneumonia, leukemia, the applicability of physiologic therapy, or the opening of an abscess, the surgeon often assumes a judicial attitude and issues an ultimatum. When an internist or physiologic therapeutist ventures to assume that he is qualified in any degree to pass on a surgical problem, he is often treated condescendingly or with dignified aloofness. And yet the judicial problems with which the internist is confronted in the average case of pneumonia, typhoid fever, nephritis, etc., require, for their efficient solution, nicer mental poise, greater wisdom and experience, and wider knowledge, than nine-tenths of those involved in the most brilliant surgical procedures. The physiologic therapeutist spends his life in a field which is practically unknown to the average surgeon. The early training of both, and their experiences and observations, have familiarized them to a large extent with the theory and practical results of surgical operations. In spite of this, however, the surgeon maintains his attitude of gentle but insistent superiority, and many a patient is thereby condemned to death or invalidism who could be restored to useful and happy activity if the therapeutic vision of the surgeon were less circumscribed: if he could but appreciate that the internist and the physiologic therapeutist are just as capable of sometimes affording him help which is valuable to his patient, as he is of affording them assistance. And with all this, the average surgeon is undeniably entirely honest in his position. He is merely looking through the large end of his telescope.

The foregoing, while apparently more or less irrelevant to the subject, perhaps has a weighty and vital bearing thereon. When the average surgeon is told that every patient who has been operated on for cancer should be roentgenized, as a routine measure, just as soon as the operation wound has healed, he assumes one of three possible attitudes: first, frank skepticism regarding the utility of roentgenization in any but superficial cancerous lesions, an attitude usually provoked by failures which have come under his observation which have discouraged him from seeking further enlightenment from competent sources or from investigating the causes of these failures; second, agnosticism, accompanied by an indifference—sometimes due to his absorption in a large practice—profound enough to prevent him from taking the trouble to look up the therapeutic results of some good roentgenologist; or third, a challenge to discussion opened by such queries as: (1) "Why should a patient be roentgenized before recurrence has manifested itself?" (2) "Why should every patient be subjected to the extra expense involved in routine postoperative roentgenization, when we know that many will be radically cured by extirpation alone, and that recurrence will not take place in such cases?" (3) "Why roentgenize many patients unnecessarily?"

Those who assume the first-mentioned attitude are almost hopeless as far as conversion is concerned; those who assume the second are entirely hopeless; but those who assume the third are usually open to conviction, and are the men to whom cancer sufferers must look for the realization of their hope for a mitigation of the dismal outlook to which they are doomed by unsupported extirpation. Such queries "put it up" to the roentgenotherapeutist, and he can satisfy any reasonable person of the propriety of routine roentgenization, if his knowledge and experience are sufficient to justify his assumption of the designation.

1. The reason why roentgenization should not be delayed until recurrence has taken place is that by the time recurrence has manifested itself the malignant process will, in many cases, have progressed so far that neither *x*-rays nor anything else can reach it effectively. The most dangerous recurrences are internal; they frequently take place with terrifying promptness, and without giving any outward and visible sign of their presence until they are well developed. The first visible indication of recurrence may transpire months after the fatal internal lesion has insidiously and firmly established itself. Immediate, routine, postoperative roentgenization, when it is effective, eliminates this danger.

Again, it is a well-established fact that recurrences are frequently far more vicious and resistant to the *x*-ray than the original lesion. It is also a well-established fact that roentgenization is utterly powerless to arrest many recurrences. Why subject any patient, then, to the gloomy chance of developing such a recurrence when the catastrophe could be so easily forestalled in, at least, many cases, by immediate postoperative treatment?

Finally, in a disease so difficult of control as cancer, conditions should, when possible, be manipulated so that only the minimum expenditure of therapeutic force will be required of any agent, however much power it may seem capable of exhibiting, because, in some instances, even all that it can do will not be enough. Immediately after thorough extirpation of a cancerous focus, such malignant elements as may remain are microscopic in size; after recurrence the lesions are relatively large. The destruction of a recurrence, then, demands much more remedial efficiency and activity on the part of the *x*-ray, to say nothing of the greater metabolic, resistive, and eliminative efficiency and activity demanded of the patient's organism, than is required when the lesions are microscopic. Immediate postoperative raying constitutes attack on the menacing factors when they are smallest and weakest, and when, if recurrence is imminent, the resistive power of the healthy tissue surrounding these foci is at its best.

2. As far as the extra expense involved in routine postoperative roentgenization is concerned, a moment's thought will demonstrate how slight is its claim to consideration. The desirability of preventing recurrence is too great for adequate expression; on its prevention depends the success of the whole operative procedure. If it obtains, the original operation might just as well—in most cases much better—not have been performed at all, because recurrence is usually more vicious in its course than the primary lesion. Therefore, the expenditure of the fifty or one hundred dollars involved in postoperative roentgenization assumes such slight relative importance, *per se*, as to become entirely negligible.

Concerning the justifiability of advising the patient to incur the extra expense for a remedy which may not be effective, the same logic applies as in the case of advising the original operation. The *x*-ray has demonstrated that it can prevent recurrence in some cases, and the ablative procedure has done the same. The *x*-ray has failed in some cases, and so has extirpation. Therefore, if it is justifiable to recommend the operation it is also justifiable to recommend postoperative radiation. In either case the patient is paying his money for the purpose of securing the most effective means of curing his trouble, and he desires to have his cure made complete and dependable, if possible. He knows that he cannot be guaranteed a cure, however much is done, but he wants all possible reasonable precautions taken. Postoperative roentgenization gives him the best chance for obtaining a radical cure. If the combination of measures is not effective, both patient and surgeon are conscious that everything possible has been done, and neither will have occasion to reproach himself, when it is too late, for having omitted a vital point in technic because of hesitation concerning the expenditure of a few dollars at the opportune moment.

3. This procedure should be applied in every case, even though many patients are treated unnecessarily, because it is never possible to determine which are going to need it previous to recurrence; hence, in order to be sure that all of those threatened receive its benefits, all patients must be rayed. The same logic applies again as in the case of the ablative procedure. We cannot tell which patients will be radically cured by operation until time has demonstrated that recurrence does not obtain. It has, however, become a well-established principle of surgical practice that extirpation is the proper management for cancer, unless the disease has extended so far as to render operation palpably useless.

As a matter of logic, the argument favors the routine postoperative application of the *x*-ray more than it does the routine adoption of extirpation, because unnecessary or unsuccessful roentgenization does the patient no harm, if skilfully applied, whereas unsuccessful extirpation increases the malignancy of the growth, and the last condition of the patient who is operated on and suffers recurrence is usually worse than the first.

The foregoing paragraph suggests another situation in which postoperative roentgenization sometimes enables ablative surgery to overcome otherwise hopeless cancer, and when the application of either alone would probably be ineffective, viz., when the malignant process is so extensive that it cannot be completely extirpated. A lesion of this character offers no prospect whatever of recovery under ablative procedures alone, and but slight prospect under roentgenization alone, probably because the local and general toxemia induced by the breaking down of large cancerous masses by *x*-radiation, is frequently profound enough to depress the patient's local and general resistive and recuperative powers seriously. Indeed, there can be little doubt that many patients have succumbed to such toxemia. And yet, up to very recently, the treatment of this class of cases has constituted about the whole extent of the field that the average surgeon has been willing to allow the roentgenotherapeutist. The dictum taught and written has been, "use the *x*-ray in inoperable cases," and, for the reason just stated, the *x*-ray did not derive much credit from its use in these cases. It is, indeed, a tremendous tribute to its actual power that it derived any at all. By first extirpating as extensively as possible in such cases, however, the amount of work to be demanded of the *x*-ray, and the amount of contingent toxemia are tremendously lessened, and both measures are given an opportunity to do their utmost under the most favorable conditions obtainable in the given case.

PREOPERATIVE ROENTGENIZATION

This measure cannot properly be considered in this discussion, but just a word in reference thereto will not be out of place, as mention of the postoperative procedure naturally suggests the preoperative application. Its advocates assert that it eliminates the malignant elements from the region surrounding the tissue to be removed, and that this is of great advantage.

This may, of course, be true, but that it actually does so eliminate malignant elements is more or less theoretical and it seems to some roentgenotherapeutists that, even on theoretical grounds, whatever advantage might accrue is more than counterbalanced by the dangers which the measure may precipitate. These are three in number: (1) the danger of depressing the patient's vitality immediately before he is about to need all of his strength for the operation, through the probable induction of more or less toxemia caused by retrogressive changes brought about in the original disease focus by the radiation; (2) the danger of so influencing the trophic functions of the part as to interfere with healing after the operation; and (3) the danger of delaying the operation long enough for sufficient preoperative radiation to be applied.

1. It is, of course, true that in the majority of instances enough toxemic depression will not be induced by preoperative radiation to influence seriously the patient's progress. It is just as true, however, that in many cases what little is induced will be sufficient to turn the scale against recovery. In a disease as refractory as cancer no factor should be permitted to enter into the problem which threatens to imperil, in any degree, the therapeutic outcome, unless a positive compensating advantage is secured thereby. That such an advantage is conferred by preoperative roentgenization is yet to be proved.

2. That vigorous x-radiation markedly retards, and sometimes entirely inhibits, reparative processes is so well known as not to require discussion. Under the circumstances we are considering, especially when it is going to be necessary to apply the ray again just as soon as healing has taken place, no measure should be tolerated which tends, in any degree, to impair the promptitude of such healing. It can, of course, be argued that preoperative radiation should not be applied with sufficient intensity to influence the trophic functions to this extent, and, theoretically, this sounds plausible and reasonable at first thought. Experience demonstrates, however, that two insuperable difficulties render such regulation impossible in any given case, viz., individual idiosyncrasy toward x-ray effects, and the fact that no exact, universally efficient, reliable method of measuring x-ray volume is available to-day. The existence of either one, alone, would render it impossible to secure precise adaptation of x-ray volume to the needs of the individual case.

To be of any use at all, preoperative roentgenization should be vigorous enough to inhibit the malignant elements, and as the relative vital resistance capacity of these varies in different cases, what would be a sufficient radiation in one case would not be sufficient in another, would be more than sufficient in still another, and, in an occasional case, would be enough to inflict serious harm. The only efficient method, then, would be to give the maximum radiation always so that every case would be sure of having enough, and, as we have seen, this involves certain injury to many cases. If the maximum is not always given, however, injury will just as certainly be inflicted on those for whom anything less than the maximum is not enough.

Another fact which tends still further to increase the uncertainty regarding the dose, hence the danger, of preoperative radiation, is that the indication that radiation has been excessive (dermatitis) does not usually appear until two weeks after the injury was actually inflicted. A beautiful course of preoperative radiations, then, might be perpetrated, the operation be performed, and just at the height of the healing process a severe x-ray necrosis develop with all its vicious potentialities for one who has demonstrated his vulnerability to cancerous degeneration.

The same argument applies against postoperative raying before the wound has healed. Gangrene of healthy flaps has been caused by raying too soon. When it is not attempted to secure union, as after curettement, when seizable open wounds are left to heal by granulation, radiation may, in most cases should, be commenced immediately. But when union within a reasonable time is probable the application should be delayed until it is practically complete.

3. If effective preoperative radiation were devoid of danger, the delay of operation involved would not be objectionable, but we have seen that this is not the case. Just so long as the ablative procedure is put off, by just so much will the time period during which sound tissues are threatened, be increased. This factor of delayed operation will not be important in many cases, perhaps, but it will in some; hence, as little, if any, demonstrable advantage accrues therefrom, it would seem as though little could be urged in favor of submitting the patient to the extra risk.

A final word may properly be said regarding the operator who is to be selected to apply the x-ray therapeutically. A good radiographer is by no means necessarily a good radiotherapeutist, any more than a good house-carpenter is necessarily a good cabinet-maker. The two use the same tools, to be sure, and have to use them with high degrees of skill, but the temperamental requirements and the technic involved in the two callings are vastly different. The efficient radiotherapeutist needs to be endowed with a fund of clinical knowledge and a faculty for clinical observation, and with a courage, patience, and good judgment that apply in but slight degree in connection with the good radiographer. Then, again, the radiographer, in the city, has so much diagnostic work to do that he cannot devote sufficient time and study to radiotherapy to get the best out of it. The radiotherapeutist, in the city, is similarly situated as regards radiography. The country districts do not furnish enough material to develop first-rate specialists in either line. As a matter of fact it may be interesting to know that those competent to judge estimate the number of competent radiotherapeutists in the United States to-day as less than forty.

Great pains, then, should be taken to send patients who are to be roentgenized to some one who is profoundly versed in the technic, and thoroughly experienced in the practice of roentgenotherapy. If any other has been entrusted with its application in a given case and good results have not followed, the method should not be blamed, but the responsibility placed where it belongs and a competent operator selected the next time.

TRANSMISSION OF A MALIGNANT NEW GROWTH BY MEANS OF A CELL-FREE FILTRATE*

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A tumor of the chicken, histologically a spindle-celled sarcoma, has been propagated in this laboratory since October, 1909,[1] and in the past few months has developed extreme malignancy.[2] From a bit inoculated into the breast muscle of a susceptible fowl there develops rapidly a large, firm growth; metastasis takes place to the viscera; and within four to five weeks often the host dies. The behavior of the new growth has been throughout that of a true neoplasm, for which reason the fact of its transmission by means of a cell-free filtrate assumes exceptional importance.

EXPERIMENTS

For the first experiments on the point use was made of ordinary filter-paper and the ground tumor suspended in Ringer's solution. It was supposed that the slight paper barrier, which allows the passage of a few red blood-cells and lymphocytes, would suffice to hold back the tumor and render the filtrate innocuous. Such has been the experience of other workers with mouse and dog tumors. But in the present instance characteristic growths followed the inoculation of small amounts of the watery filtrate, and followed also the inoculation of the fluid supernatant after centrifugalization of a tumor emulsion.

These results led to more critical experiments, which will be here detailed. Tumors of especially rapid growth and young, well-grown, barred Plymouth Rock fowls were used throughout.

Experiment 1.—Tumor material from the breast of Chicken 92 (tumor generation 6 A) was ground with sterile sand, suspended in a considerable bulk of Ringer's solution, and shaken for twenty minutes in a machine. The sand and tumor fragments were separated out by centrifugalization in large tubes for five minutes at 2,800 revolutions per minute. Of the supernatant fluid a little was pipetted off, and this centrifugalized anew for fifteen minutes at over 3,000 revolutions per minute. From the upper layers sufficient fluid for inoculation was now carefully withdrawn. The pure-bred fowls were injected in one breast with 0.2 c.c. of the fluid, in the other with a small bit of tumor tissue. All developed sarcoma at the site of this latter inoculation, and in seven the same growth slowly appeared at the point where the fluid had been injected.

Experiment 2.—Tumor from Chicken 90 (tumor generation 6 A) was ground, suspended, and shaken as before. But after one centrifugalization the fluid was passed through a Berkefeld filter No. 2 (coarse). Before filtration, it was pinkish-yellow, cloudy; afterwards, faintly yellow, limpid. Nine fowls were inoculated with 0.2 c.c. of the filtrate in each breast, and twenty-two more received filtrate in one breast, a bit of tumor in the other. Of the nine, one slowly developed a sarcoma in each breast, and later microscopic growths were found in its lungs. Of the twenty-two receiving both filtrate and tumor, five developed sarcoma where the filtrate had been injected, and these five showed especially large growths from the tumor bit.

The Berkefeld filter employed was later found slightly pervious to *Bacillus prodigiosus*.

Experiment 3.—The filtrate was similarly prepared except that a small Berkefeld filter (No. 5 medium), impermeable to *Bacillus prodigiosus*, was used. As before, the filtration was done at room temperature. Fowl 124 (generation 7 A) furnished the material. Twenty chickens were inoculated in each breast with the filtrate, but none have developed tumors.

Experiment 4.—In this experiment the material was never allowed to cool. About 15 gm. of tumor from Chicken 140 (generation 7 B) was ground in a warm mortar with warm sand, mixed with 200 c.c. of heated Ringer's solution, shaken for thirty minutes within a thermostat room, centrifugalized, and the fluid passed through a filter similar to that used in Experiment 3. Both before and after the experiment, this filter was found to hold back *Bacillus prodigiosus*. The filtration of the fluid was done at 38.5 C., and its injection immediately followed. In four of ten fowls inoculated with the filtrate only (0.2 to 0.5 c.c. in each breast) there has developed a sarcoma in one breast; and though the growths required several weeks for their appearance their enlargement is now fairly rapid. Pieces removed at operation have shown the characteristic tumor structure.

CHARACTERS OF THE TUMOR

As has been pointed out, the special significance of these results lies in the growth's identity as a tumor. The original sarcoma was found as a unique instance in a flock of healthy fowls; and, though susceptible normal chickens and others with the tumor have since been kept together in close quarters for long periods, no instance suggesting a natural infectivity of the growth has occurred. When inoculated, it is at first a local disease, very dependent on the good health of the host. At this time intercurrent illness of the fowl will check the nodule's growth or even cause it transiently to disappear. For long the sarcoma could be transferred only to fowls of the same pure-bred variety in which it arose, and this only in an occasional individual; but like many tumors, it has gained on repeated transplantation a heightened malignancy, and the power to grow in other varieties of the same animal. Yet in these it does not do well; and it has not been successfully transplanted to other species.

Histologically, the growth has always consisted of one type of cells, namely, spindle-cells in bundles, with a slight, supporting, connective tissue framework. The picture does not in the least suggest a granuloma; and cultures from the growth remain sterile as regards bacteria. At the edge of the invading mass there is often practically no cellular reaction, but lymphocytes in small number may be present, as is common with tumors in general. Metastasis takes place early, through the blood-stream, and the secondary nodules have the same character as the primary. Several instances of the sarcoma's direct extension into vessels have been encountered. The secondary growths are distributed especially to the lungs, heart and liver, and in the last organ are sometimes umbilicated. The host becomes emaciated, cold and drowsy, and shortly dies.

Transplantation experiments with the tumors resulting from the filtrate are at present under way. The tumor of Experiment 2, which arose in the fowl that received filtrate alone, has already been successfully transplanted.

Sixty-Sixth Street and Avenue A.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

[1] Jour. Exper. Med., 1910, xii, 696.

[2] Rous, Peyton: Metastasis and Tumor Immunity: Observations with a Transmissible Avian Neoplasm, The Journal A. M. A., Nov. 19, 1910, p. 1805.

Length of Treatment of Syphilis.—The first two years' treatment is the most important period for the patient and on its thoroughness depends largely his future well-being. Treatment should be actively pursued for at least five years; that is, the treatment should be persistent for three years, less energetic during the next two. The patient should be under observation the next several years. In fact, it is best for the patient to undergo treatment for three or four weeks each year during his lifetime.—A. G. Nadler, in *Yale Medical Journal*.

PYELITIS GRAVIDARUM

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Although pyelitis gravidarum is not a very rare disease, it occasionally presents certain difficulties in differential diagnosis, for which reason the following case may be of interest:

History.—Mrs. P., aged 35, a sextipara, had easy and normal pregnancies and labors with the first four children; in the fifth and sixth pregnancies, however, she was severely ill, and to judge from her history the complications of the two pregnancies were identical. The patient came under my observation in the last two months of the sixth pregnancy. She said that she had had pneumonia and brain fever in the fifth month of the preceding or fifth pregnancy, and was confined to her bed until after her delivery, which occurred prematurely about the eighth month. She coughed incessantly throughout that time, and had periodical pains of excruciating character over the left side. She also had severe intestinal symptoms, as vomiting and tympanites. The pain in the left side was remittent and not intermittent. While she had "pneumonia" (?) she stated that she never expectorated blood or rusty sputum. Four weeks before delivery labor pains set in and with the gradual progress of labor there was a corresponding subsidence of her pains and intestinal trouble.

Present Illness.—Concerning the history of her present trouble, all I could learn was that the patient felt perfectly well during the interval and during first five months of pregnancy. In the sixth month the patient commenced to have pains, paroxysmal in character, in left side, occasionally accompanied by chills and fever. Before she came to the German Hospital her main symptoms were vomiting, chills, fever and pain. On admission, patient was greatly emaciated, with a hectic flush, severe, dry cough, and great dyspnea. Cough and dyspnea she had had only a few days. She also had retention of urine, later involuntary urination and defecation, and partial blindness, lasting a week. She asserted that she had the amaurosis in the previous attack also. Headache, and pain in the left hypochondrium, running down along the ureter, were present most of the time.

Examination.—Taking the left kidney between one's hands and making pressure, exquisite tenderness could be found. The same tenderness could be elicited by pressing along the course of the ureter at its lower part, of course intravaginally. Widal proved negative. Of great importance were the urinary findings: specific gravity, 1,010; urea, 0.5 per cent.; there were pus cells, epithelial cells, red blood cells, and almost pure cultures of the *Bacillus coli communis* present. I examined a great many specimens, with the same result. The colon bacillus was so predominating that its pathologic importance with regard to the etiology of this disease seemed obvious. Hemoglobin, 70 per cent.; whites, 14,600; reds, 5,752,000. Unfortunately, a bacteriologic examination of the blood was not made. I should not have been surprised if the colon bacillus had been found in the blood and the scanty sputum.

Treatment.—This was symptomatic; saline enemas, hexamethylenamin (urotropin) with distilled water. Buttermilk was the first article of diet which the patient retained, commencing with small quantities—2 ounces—and gradually increasing to 8 ounces three times daily. As soon as the head of the fetus descended, symptoms abated, and with commencement of labor, lasting twenty-four hours, which also in this instance was premature, the patient improved rapidly, and appeared past the crisis, as it were, as soon as the child was delivered. She was able to nurse her child, which weighed 4¾ pounds at birth, and left the hospital sixteen days after confinement, practically well. The urine was found to be normal soon after labor.

We have two varieties of pyelitis in connection with pregnancy: first, the pyelitis occurring during pregnancy, often of ascending gonorrheal origin, or caused by cystitis existing before pregnancy, and possibly also caused by the colon bacillus which ascended from the anus, as Scheidemandel pointed out; second, pyelitis of pregnancy, pyelitis gravidarum, having pregnancy as its exciting cause, and with, in the majority of instances, complete recovery after labor.

There are two theories as to the avenue of infection of the kidneys. One is that the infection ascends from the external genitalia through bladder and ureter; the other that the infection is carried in the blood and localizes in the kidney as a *locus minoris resistentiæ.*

That the gastro-intestinal disturbances (regular symptoms of this disease, and unusually prominent in this case), are of etiologic importance, is beyond peradventure. A great many observers lay much stress on the mechanical state of affairs during pregnancy as a contributing factor, namely, pressure on the ureter, especially the right, by the head of the child. The fact is that in most cases on record, as also in mine, the symptoms left the patient as the head descended and pressure was relieved.

The terrific cough, lasting two and a half months in the former and one month in last pregnancy, and quickly leaving the patient on delivery, possibly was due to colon bacillus infection of the respiratory tract. In most cases the right kidney was affected, which was explained by the fact that the uterus leans toward the right side, the sigmoid protects the left ureter, and the presentation is mostly occipito-left anterior.

Whether the presentation in my case, occipito-right anterior, had anything to do with the left kidney being affected, I would not venture to say. The diagnosis is, of course, more difficult in dextrolateral pyelitis, the disease being very apt to be mistaken for appendicitis, gall-stones or typhoid. The tenderness over the kidney and along the course of the ureter, especially the pelvic portion, felt through the vagina, and the urinary findings, especially presence of the colon bacillus, ought to be sufficient to clear up the diagnosis.

34 Washington Street.

ABDOMINAL DIPHTHERIA

B. C. Everall, M.D., waterloo, iowa

A case of abdominal diphtheria recently reported is of interest because of its rarity; it reminds me of a case of mine which presented similar symptoms.

The patient, a boy, age 6, was in my care for nasopharyngeal diphtheria, from which he was apparently convalescent at the seventeenth day of the disease. At that time his pulse was 96 and his temperature 99.2. On this day he vomited twice. One ounce of castor oil was given and retained, but vomiting returned and became almost constant. The pulse was 158; temperature 103 F. Six hours later the temperature was 104.5 F., and pulse 170. The abdomen was distended and tender, especially below the navel. The patient vomited a dark green material. An enema was given and followed by much gas and only a slight coloring to the returned fluid. At this time, most alarming respiratory and circulatory symptoms appeared. The respirations were hurried and regular, and then suddenly ceased, while the pulse and heart-sounds became imperceptible and the face cyanotic, the whole attack lasting one to two minutes. Two doses of antitoxin were given, followed by rapid abatement of symptoms. Two days after the last dose of antitoxin, following a dose of calomel and an enema, the patient passed a large amount of foul and bloody feces, containing a necrotic membrane, 3 inches long, having the appearance of a cast of some part of the gastrointestinal tract below the pharynx. The patient made a slow recovery, developing an extensive paralysis with a persistent high pulse-rate and obstinate constipation.

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EXPERIMENTAL CIRRHOSIS OF THE LIVER

Perhaps no disease presents more difficult problems in its etiology and pathogenesis than does cirrhosis of the liver. Experiments have shown that various toxic substances administered to animals produce degenerative changes in the liver, and that when this administration is prolonged for a considerable period, increase of the interstitial tissue follows. Nevertheless, the results of such experiments have been inconstant, and the lesion which has been obtained has rarely possessed the clinical and anatomic characters of the cirrhosis common in man. Alcohol, particularly, although its abuse has been recognized clinically as a cause of cirrhosis in man, has not been found to produce experimentally in animals the pathologic condition of the liver found in human cirrhosis.

E. L. Opie[1] in his experiments has shown that bacteria in association with toxic substances having a special affinity for the liver, such as chloroform and phosphorus, may produce changes which neither the poison nor the bacteria can cause when acting alone. The possibility that disturbances of metabolism in man may produce changes in the liver similar to those caused by such poisons is well illustrated by the toxemia of pregnancy, in which persistent vomiting is associated with central necrosis of the hepatic lobule similar to that caused by chloroform. The experiments show that the activity of a hepatic poison may be so intensified by bacterial infection that a quantity of the poison which alone produces little change, may, in combination with *Bacillus coli* and *Streptococcus pyogenes,* cause destruction of almost the entire hepatic parenchyma. Some bacteria (*e. g.,* colon bacilli), which have little pathogenicity for the normal animal are virulent for the animal whose liver has been injured by chloroform or phosphorus. It is possible that those instances of acute yellow atrophy which accompany infection with *Streptococcus pyogenes* are dependent on some disturbance of metabolism or other form of intoxication which has rendered the liver unusually susceptible.

The experiments, furthermore, show that bacterial infection can influence and even determine the development of cirrhosis of the liver. Degenerative changes which usually undergo rapid repair may cause sclerosis when combined with bacterial infection. Whereas cirrhosis may be caused by chloroform without bacterial inoculation, the introduction of bacteria hastens the progress of the chronic change. The poison in large quantity rapidly causes death, but a much smaller quantity in association with a relatively non-pathogenic microorganism produces a lesion from which recovery is possible. Such insults repeated at intervals produce the chronic changes of cirrhosis. By the administration of chloroform, accompanied by intravenous inoculation with *Bacillus coli,* it has been possible to produce advanced hepatic cirrhosis accompanied by active new formation of bile-ducts within a period of twenty-three days. The experiments have shown that in this way it is possible to produce a portal obstruction comparable to that which occurs in the atrophic cirrhosis of man.

This experimental work suggests the explanation of the fact that some alcoholics escape cirrhosis, while temperate persons and even total abstainers sometimes develop the disease. In the latter cases we may assume that the toxic element of the etiologic combination arises from the production of poisons inside the body.

PASTEURIZATION OF MILK

The present wide-spread campaign for a clean milk-supply has brought about a more or less heated controversy between those favoring and those opposing the pasteurization of milk. The former contend (1) that there is protection from pathogenic bacteria; (2) that the reduction of numbers lessens infantile mortality; and (3) that the keeping qualities of the milk are thereby enhanced. The opponents contend that (1) pasteurization kills all acid-forming bacteria, which would, according to their view, protect the milk from pathogenic changes; (2) that bacterial toxins are not destroyed by pasteurization temperature; (3) that careless methods of handling milk are encouraged and dirt in milk is covered up; (4) that bacteria increase more rapidly in pasteurized milk than in raw milk; and (5) that undesirable changes take place by pasteurization.

Bulletin 126 of the U. S. Agricultural Experiment Station, Bureau of Animal Industry, recently published, reports a mass of work which throws new light on many phases of pasteurization and overthrows many prejudices against it. The samples for the experiments were collected from commercial pasteurized milk, and the results, therefore, are of eminently practical value. The bacteria in pasteurized and raw milk were studied by grouping them into three classes: (1) acid-forming bacteria; (2) peptonizing or liquefying (putrefactive) bacteria; (3) inert bacteria.

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[1] Opie, Eugene L.: Proc. Path. Soc. Philadelphia, September, 1910.

It was found that many acid-forming bacteria are not destroyed below 75.6 C. (168 F.), so that pasteurized milk turns sour the same as raw milk, although the process is somewhat delayed. Liquefying bacteria, which form spores and therefore survive pasteurization, have been believed by some to produce toxins detrimental to health. The bulletin shows that there are fewer bacteria of this kind in pasteurized milk than in raw milk, and that they do not multiply rapidly. The numerical relation of the three groups is practically the same as in raw milk, and the cleaner the milk the more closely does this relation resemble that in pasteurized milk. Acid-forming bacteria are scarce in certified milk and can be found only by special methods. The same condition is found in pasteurized milk. The acid development in an efficiently pasteurized milk is about the same as in clean raw milk, but in less efficiently pasteurized milk the position of the groups is more like the relation in dirty milk.

No investigation is reported on the influence of pasteurization temperature on toxins, but it is not known that toxins are formed under ordinary conditions; many toxins are destroyed at relatively low temperatures. Careless methods need not be encouraged by pasteurization, if an adequate dairy inspection is provided for. No milk should be used under any conditions if it comes from a dairy with a score of less than fifty points, according to the method of rating dairies adopted by the government.

The objection that bacteria multiply more rapidly in pasteurized milk than in raw milk is shown to be erroneous. Comparisons between both kinds of milk with approximately the same numbers of bacteria show an equal rate of multiplication. It seems that the smaller the number of bacteria present the more rapid the multiplication, whether it be in raw or pasteurized milk. As to the objectionable changes taking place during pasteurization, there is no evidence of such changes, unless the milk is heated far beyond the temperature necessary for pasteurization. The authors conclude that pasteurization which holds the milk at a temperature of 145 F. for thirty minutes is the most practical method. This is known as the holding process, in distinction from the flash process, which heats the milk momentarily to 185 F. The latter method has many disadvantages and is not so effective as the former.

Considering the low counts of bottled pasteurized milk, and the similarity of the bacterial group proportions to those of clean raw milk, the authors think that the former not only cannot be classed, from a bacteriologic point of view, as inferior to commercial raw milk, but that it presents distinct advantages over the raw product in the keeping qualities of the milk, in the protection from pathogenic bacteria and consequently in the lessening of infant mortality. The last of these considerations, of course, is the most important, since it represents the object to be attained.

THE CRIMINAL CLASS AND THE SO-CALLED CRIMINAL TYPE

It is scarcely more than a year since Lombroso died. Within a week or two of the anniversary of his death, the International Prison Commission sitting in Washington listened to a sweeping repudiation of the theory that criminals are members of a distinct class, marked with certain atavistic physical characteristics, and endowed with an innate tendency toward crime. Sir Evelyn Ruggles-Brise,[1] president of the British Prison Commission and president-elect of the International Prison Commission, says that examinations of three thousand of the worst convicts in England, including measurements, family history and mental and physical characteristics, have failed to confirm the existence of a criminal type; "and in fact," he says, "both with regard to measurements and the presence of physical anomalies in criminals, these statistics present a startling conformity with similar statistics of the law-abiding classes."

The disagreement between penologists like Ruggles-Brise and the Italian school of criminal anthropology seems to be in part a matter of nomenclature and definition. The "criminal anthropologists" are trying to cram a new concept, scientific *ex hypothesi*—but not yet so defined that he who runs may read—into the word "criminal," meanwhile unceremoniously ignoring its accepted legal definition and meaning. When Lombroso says[2] that crime among savages is not the exception but the rule, and that in its origins crime is mingled with the least criminal actions, those who have the accepted legal concept of crime in mind at once reject the statement as false; and the cautious nonpartisan, lacking an authoritative statement of the Lombrosan criterion of crime, is reluctant to draw any conclusion more final than that Lombroso certainly did not intend the legal definition. The current non-legal meaning, of course, is too vague and unscientific to be of use.

According to the only precise accepted definition, the word "criminal" denotes a person who has committed a public offense, or crime. The word thus makes no pretension to being scientific, but it is practical and indispensable. But nothing is a crime in any exact sense except what the law declares to be such; and therefore the content of the word "crime," while roughly constant along certain main lines, varies in detail according to the age in which and the people by whom it is applied. As Wines says,[3] "that which is permanent and abiding in human nature constitutes its larger part; but there is enough that is evanescent to impart a transitory character to many alleged crimes." At the period when it was a crime for an English laborer to catch fish in preserved waters, and for an English tradesman to attempt to corner the market, piracy might be legalized by letters of marque issued by any civilized state, and therefore was not necessarily a crime. These instances, extreme as they seem, are drawn from a not very remote past; and probably few would assert that even now our criminal laws present anything like scientific consistency. The law is a bludgeon of defense, rather than an instrument of scientific precision.

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[1] Ruggles-Brise, E.: The New World and Crime, Survey, Nov. 5, 1910, p. 181.

[2] Lombroso, C.: L'homme criminel, second French edition, Paris, 1895, Félix Alcan, i, 35.

[3] Wines, F. H.: Punishment and Reformation, New York, Thomas Y. Crowell & Co., p. 23.

Penologists, however, deal, not with criminals as such, but with convicted criminals—that is, with prisoners. For them, the word "criminal" practically means a person to whom twelve totally unskilled persons have applied that somewhat arbitrary and altogether unscientific definition. One might naturally expect prisoners to exhibit points of inferiority when compared with useful members of society; but, since the accepted definition of the criminal is no more scientific than the definition of the butcher, the baker or the candlestick-maker, and since prisoners are selected from among criminals by a process scarcely more scientific than that by which jurors are selected from among law-abiding citizens, *a priori,* why should we expect the inmates of prisons to present common biologic characteristics even if they do present common social characteristics? The relief with which Ruggles-Brise greets evidence tending to overthrow what he calls the "vulgar superstition" that the criminal is a being of a special type may therefore be appreciated, even by those who still reserve judgment on the question of hereditary defect as one cause of antisocial conduct.

Lombroso, it will be remembered, never asserted that born or atavistic criminals constituted the mass or even the majority of lawbreakers; he admitted the existence of criminals who were developed by opportunity. He claimed to find the "criminal type" in 40 per cent of criminals; but, we believe, he reduced this percentage still further before his death. The question which he assumed to answer in the affirmative may be formulated, for lack of a more authoritative statement, in some such words as these: Is there a definite type of individual in whom exists, correlated with certain atavistic physical characteristics, a tendency to revert to types of conduct once usual and normal, but now generally reprobated as antisocial? Individuals of such type might be expected naturally, though not necessarily or inevitably, to come into conflict with the law; and similarly the law-breaking classes might be expected to comprise more of such retrograde individuals than do the law-abiding classes; but the problem presented by such degenerates is not identical with the problem of the criminal in the legal sense. Confusion between the material and the terms of the scientific problem of the "criminal anthropologist," on the one hand, and the material and the terms of the practical problem of the penologist, on the other, is a misfortune for which the former is apparently responsible through his unrightful appropriation of the term "criminal."

Ruggles-Brise asserts that the idea that the criminal is the product of heredity—of the remote past—has paralyzed efforts at reform. On this account especially, the disentanglement of the two problems—the practical problem of the lawbreaker and the scientific problem of the degenerate—seems desirable and important. Whether Ruggles-Brise is right in his rather harsh and peremptory denial of the whole of Lombroso's theory is a question for the anthropologists to settle. Meanwhile, it is to be hoped that the adoption of the more fruitful and hopeful conception of criminality (in the non-Lombrosan sense) as the product mainly of environment, and hence of forces within reach here and now, may give an impetus both to reform of the criminal and to prevention of crime.

Current Comment

CENTRIFUGAL EDUCATION

A recent address by Professor Osborn[1] contains truths which are quite as equally applicable to medical education as to any other department of learning. Professor Osborn uses the term "centrifugal" education in speaking of the training of students to give out, to construct or to develop new ideas, as compared with the mere learning and memorizing of facts, which he designates as "centripetal" education. The real object of education is certainly better fulfilled by the former method. The value of education, a genuine culture, does not depend on what one takes in, but on the use one makes of what he learns, on what he gives out. "One little idea of your own well expressed has a greater culture than one hundred ideas you absorb." So the man of true culture will always be the man who is using his learning, his reason and his observations in an effort "to add something of his own to the stock of the world's ideas." Clearly the chief object of education should be to develop productive thinking, to get the student to make practical use of what he has learned. Such constructive thinking should be encouraged at the very beginning of the student's career and not postponed until after his graduation. Instead of interfering with the student's learning and memorizing of facts, centrifugal education will lead him on to greater effort and, by an inductive process, enable him better to grasp other related facts. Not only will the student better appreciate the value of knowledge, but he will also be able more easily to memorize what he reads if at the same time he is taught to make use of that knowledge. To stimulate this constructive thinking different methods have been employed. Some teachers, like the great embryologist, Francis Blair of Cambridge, England, write joint papers with their students. Others urge their students to do original research and to write original articles, the best of which are read before some special society and published in its transactions. Following the method of Langdell in teaching law, Professor Osborn has his students in turn give the lectures while he listens and makes comments. After all, "the measure of a teacher's success is the degree in which ideas come, not from him, but from his pupils." In no profession is the possession of fully developed powers of observation and of prompt, logical and productive thinking more important than in the practice of medicine. A centrifugal education for everyone who enters the medical profession would insure, not only more prompt and accurate diagnosis, but also the selection and use of the most rational and beneficial means of treatment.

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[1] Huxley on Education, Columbia Univ. Quart., December, 1910.

THE "FITTING" OF GLASSES

The author of a recent article[1] describes her experience in visiting fifteen five-and-ten-cent stores in a large city where a pretense is made of fitting glasses by means of test cards. The card contains type of different sizes, the largest at the top, each line numbered. The customer was directed to hold the card about fourteen inches from the eye and to read down until she reached the finest type that could be read without glasses. Then the glasses corresponding to the number opposite the line were the ones said to be required. The author describes her case as one of "unsymmetrical myopic astigmatism with subnormal accommodation," for which she had already been given the proper correction by an ophthalmologist. The glasses purchased varied from a + 6.75 to + .50 and were, of course, the same for both eyes, except in one instance, in which the pieces of glass were so badly ground that "they represented one thing in one spot and something quite different in another." It is needless to say that this patient could see nothing with any of the glasses; all of them were for far-sighted eyes, whereas her eyes were myopic. She concludes that perhaps she is not a fit subject to buy ten-cent-store glasses. Investigation showed that large numbers of people were "fitted" with these glasses. One store reported selling as many as six dozens a day. Though we may not subscribe to the long list of ailments which some ascribe to eye-strain, the positive injury done and perpetuated by allowing such absurd methods to be employed on so important an organ as the eye is a rather serious matter.

THE PREVARICATOR'S PREDICAMENT

Physicians the country over are familiar with a little publication that is sent to them at more or less regular intervals called *"La Tribune Médicale* (American Edition)." The only apparent mission this "journal" has is that of advertising the products of Fougera & Co. from which house, presumably, it emanates. In its January, 1911, issue, which contains no other advertisements than Fougera's, is an editorial discussing the federal Food and Drugs Act. The remarkable attitude is taken that, since the pure food law will not permit lying statements to be made (on the label) about medicinal preparations, therefore, therapeutic progress is greatly hampered. A case is described of a firm which is alleged to have put out a preparation "in an ultra-ethical manner." "No exaggerated statements were made, its chemical formula and its properties were given," etc. But, alas, the conservatism and moderation —for, of course, it could not be lack of merit—were such as to prevent the preparation becoming a success. As a result "the firm in question, therefore, withdrew their product from the market in disgust." The moral of all this is summed up by the editorial writer in the following peroration:

> "This shows, we think, that, much as we must deplore it, it is necessary, even with such trained men as physicians, to make dogmatic statements and actually to magnify claims in order to get attention, and if this is so with the medical profession, how much more will it be necessary with the public? Mild, reasonable and modest statements fall flat, and since no exaggerated statements will be tolerated in the future on account of the 'misbranding clause' of the Food and Drugs Act, it looks very much as if enterprise and progress in this direction must cease."

It seems then, that, in the United States, "enterprise and progress" are incompatible with truth and honesty. Prevarication is the price of progress! Honesty is the worst policy! Now we understand, perhaps, why in the past Fougera & Co. advertised that Santal Midy "cures in 48 hours" and that diabetes is "surely and rapidly cured by Vin Uranè Pesqui." Evidently this firm's desire to aid ailing humanity—and incidentally increase the box receipts—was strong enough to overcome any scruples it may have had against lying. It was a case of choosing the less of two evils. We are glad to say that we have sufficient confidence in the ultimate status of drug therapy to hold the opinion that any remedy of real merit may safely count on coming into its own without being introduced by means of the persuasive fiction of the prevaricating press agent. That many a worthless product has enjoyed a vogue and helped swell the profits of its manufacturers simply because an artificial demand was created by the use of printer's ink, we must sorrowfully admit. In fact, it is a sorry commentary on modern methods of introducing medicinal products that it should be thought necessary not only to apologize for untruthfulness in exploitation but also to insist that only by falsehood can success be assured. The outlook for therapeutics must seem very black to the editor of this advertising periodical, for, in spite of the cramping restrictions put on pharmaceutic houses by making it actually illegal to lie about their products (on the label), we believe that the Food and Drugs Act meets with pretty general approval and that it is here to stay. We are optimistic enough to believe that pharmaceutic manufacturers generally will meet the exigencies of this case in the true American spirit which always finds a way around or over obstacles. To such firms as feel hampered by the requirements of the pure food law we respectfully suggest a remedy: Tell the truth about your products and let therapeutic progress take care of itself. The results, we venture to say, will be as much a surprise to the firms themselves as their change of attitude will be to the medical profession. Great is truth and it shall prevail!

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[1] Greene, Lilla A.: Eye-Strain and the Ten-Cent Store, The Survey, Nov. 19, 1910, p 299.

catch fish in preserved waters, and for an English tradesman to attempt to corner the market, piracy might be legalized by letters of marque issued by any civilized state, and therefore was not necessarily a crime. These instances, extreme as they seem, are drawn from a not very remote past; and probably few would assert that even now our criminal laws present anything like scientific consistency. The law is a bludgeon of defense, rather than an instrument of scientific precision.

Penologists, however, deal, not with criminals as such, but with convicted criminals—that is, with prisoners. For them, the word "criminal" practically means a person to whom twelve totally unskilled persons have applied that somewhat arbitrary and altogether unscientific definition. One might naturally expect prisoners to exhibit points of inferiority when compared with useful members of society; but, since the accepted definition of the criminal is no more scientific than the definition of the butcher, the baker or the candlestick-maker, and since prisoners are selected from among criminals by a process scarcely more scientific than that by which jurors are selected from among law-abiding citizens, *a priori*, why should we expect the inmates of prisons to present common biologic characteristics even if they do present common social characteristics? The relief with which Ruggles-Brise greets evidence tending to overthrow what he calls the "vulgar superstition" that the criminal is a being of a special type may therefore be appreciated, even by those who still reserve judgment on the question of hereditary defect as one cause of antisocial conduct.

Lombroso, it will be remembered, never asserted that born or atavistic criminals constituted the mass or even the majority of lawbreakers; he admitted the existence of criminals who were developed by opportunity. He claimed to find the "criminal type" in 40 per cent of criminals; but, we believe, he reduced this percentage still further before his death. The question which he assumed to answer in the affirmative may be formulated, for lack of a more authoritative statement, in some such words as these: Is there a definite type of individual in whom exists, correlated with certain atavistic physical characteristics, a tendency to revert to types of conduct once usual and normal, but now generally reprobated as antisocial? Individuals of such type might be expected naturally, though not necessarily or inevitably, to come into conflict with the law; and similarly the law-breaking classes might be expected to comprise more of such retrograde individuals than do the law-abiding classes; but the problem presented by such degenerates is not identical with the problem of the criminal in the legal sense. Confusion between the material and the terms of the scientific problem of the "criminal anthropologist," on the one hand, and the material and the terms of the practical problem of the penologist, on the other, is a misfortune for which the former is apparently responsible through his unrightful appropriation of the term "criminal."

Ruggles-Brise asserts that the idea that the criminal is the product of heredity—of the remote past—has paralyzed efforts at reform. On this account especially, the disentanglement of the two problems—the practical problem of the lawbreaker and the scientific problem of the degenerate—seems desirable and important. Whether Ruggles-Brise is right in his rather harsh and peremptory denial of the whole of Lombroso's theory is a question for the anthropologists to settle. Meanwhile, it is to be hoped that the adoption of the more fruitful and hopeful conception of criminality (in the non-Lombrosan sense) as the product mainly of environment, and hence of forces within reach here and now, may give an impetus both to reform of the criminal and to prevention of crime.

Current Comment

CENTRIFUGAL EDUCATION

A recent address by Professor Osborn[1] contains truths which are quite as equally applicable to medical education as to any other department of learning. Professor Osborn uses the term "centrifugal" education in speaking of the training of students to give out, to construct or to develop new ideas, as compared with the mere learning and memorizing of facts, which he designates as "centripetal" education. The real object of education is certainly better fulfilled by the former method. The value of education, a genuine culture, does not depend on what one takes in, but on the use one makes of what he learns, on what he gives out. "One little idea of your own well expressed has a greater culture than one hundred ideas you absorb." So the man of true culture will always be the man who is using his learning, his reason and his observations in an effort "to add something of his own to the stock of the world's ideas." Clearly the chief object of education should be to develop productive thinking, to get the student to make practical use of what he has learned. Such constructive thinking should be encouraged at the very beginning of the student's career and not postponed until after his graduation. Instead of interfering with the student's learning and memorizing of facts, centrifugal education will lead him on to greater effort and, by an inductive process, enable him better to grasp other related facts. Not only will the student better appreciate the value of knowledge, but he will also be able more easily to memorize what he reads if at the same time he is taught to make use of that knowledge. To stimulate this constructive thinking different methods have been employed. Some teachers, like the great embryologist, Francis Blair of Cambridge, England, write joint papers with their students. Others urge their students to do original research and to write original articles, the best of which are read before some special society and published in its transactions. Following the method of Langdell in teaching law, Professor Osborn has his students in turn give the lectures while he listens and makes comments. After all, "the measure of a teacher's success is the degree in which ideas come, not from him, but from his pupils." In no profession is the possession of fully developed powers of observation and of prompt, logical and productive thinking more important than in the practice of medicine. A centrifugal education for everyone who enters the medical profession would insure, not only more prompt and accurate diagnosis, but also the selection and use of the most rational and beneficial means of treatment.

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[1] Huxley on Education, Columbia Univ. Quart., December, 1910.

THE "FITTING" OF GLASSES

The author of a recent article[1] describes her experience in visiting fifteen five-and-ten-cent stores in a large city where a pretense is made of fitting glasses by means of test cards. The card contains type of different sizes, the largest at the top, each line numbered. The customer was directed to hold the card about fourteen inches from the eye and to read down until she reached the finest type that could be read without glasses. Then the glasses corresponding to the number opposite the line were the ones said to be required. The author describes her case as one of "unsymmetrical myopic astigmatism with subnormal accommodation," for which she had already been given the proper correction by an ophthalmologist. The glasses purchased varied from a + 6.75 to + .50 and were, of course, the same for both eyes, except in one instance, in which the pieces of glass were so badly ground that "they represented one thing in one spot and something quite different in another." It is needless to say that this patient could see nothing with any of the glasses; all of them were for far-sighted eyes, whereas her eyes were myopic. She concludes that perhaps she is not a fit subject to buy ten-cent-store glasses. Investigation showed that large numbers of people were "fitted" with these glasses. One store reported selling as many as six dozens a day. Though we may not subscribe to the long list of ailments which some ascribe to eye-strain, the positive injury done and perpetuated by allowing such absurd methods to be employed on so important an organ as the eye is a rather serious matter.

THE PREVARICATOR'S PREDICAMENT

Physicians the country over are familiar with a little publication that is sent to them at more or less regular intervals called *"La Tribune Médicale* (American Edition)." The only apparent mission this "journal" has is that of advertising the products of Fougera & Co. from which house, presumably, it emanates. In its January, 1911, issue, which contains no other advertisements than Fougera's, is an editorial discussing the federal Food and Drugs Act. The remarkable attitude is taken that, since the pure food law will not permit lying statements to be made (on the label) about medicinal preparations, therefore, therapeutic progress is greatly hampered. A case is described of a firm which is alleged to have put out a preparation "in an ultra-ethical manner." "No exaggerated statements were made, its chemical formula and its properties were given," etc. But, alas, the conservatism and moderation —for, of course, it could not be lack of merit—were such as to prevent the preparation becoming a success. As a result "the firm in question, therefore, withdrew their product from the market in disgust." The moral of all this is summed up by the editorial writer in the following peroration:

> "This shows, we think, that, much as we must deplore it, it is necessary, even with such trained men as physicians, to make dogmatic statements and actually to magnify claims in order to get attention, and if this is so with the medical profession, how much more will it be necessary with the public? Mild, reasonable and modest statements fall flat, and since no exaggerated statements will be tolerated in the future on account of the 'misbranding clause' of the Food and Drugs Act, it looks very much as if enterprise and progress in this direction must cease."

It seems then, that, in the United States, "enterprise and progress" are incompatible with truth and honesty. Prevarication is the price of progress! Honesty is the worst policy! Now we understand, perhaps, why in the past Fougera & Co. advertised that Santal Midy "cures in 48 hours" and that diabetes is "surely and rapidly cured by Vin Urané Pesqui." Evidently this firm's desire to aid ailing humanity—and incidentally increase the box receipts—was strong enough to overcome any scruples it may have had against lying. It was a case of choosing the less of two evils. We are glad to say that we have sufficient confidence in the ultimate status of drug therapy to hold the opinion that any remedy of real merit may safely count on coming into its own without being introduced by means of the persuasive fiction of the prevaricating press agent. That many a worthless product has enjoyed a vogue and helped swell the profits of its manufacturers simply because an artificial demand was created by the use of printer's ink, we must sorrowfully admit. In fact, it is a sorry commentary on modern methods of introducing medicinal products that it should be thought necessary not only to apologize for untruthfulness in exploitation but also to insist that only by falsehood can success be assured. The outlook for therapeutics must seem very black to the editor of this advertising periodical, for, in spite of the cramping restrictions put on pharmaceutic houses by making it actually illegal to lie about their products (on the label), we believe that the Food and Drugs Act meets with pretty general approval and that it is here to stay. We are optimistic enough to believe that pharmaceutic manufacturers generally will meet the exigencies of this case in the true American spirit which always finds a way around or over obstacles. To such firms as feel hampered by the requirements of the pure food law we respectfully suggest a remedy: Tell the truth about your products and let therapeutic progress take care of itself. The results, we venture to say, will be as much a surprise to the firms themselves as their change of attitude will be to the medical profession. Great is truth and it shall prevail!

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[1] Greene, Lilla A.: Eye-Strain and the Ten-Cent Store, The Survey, Nov. 19, 1910, p 299.

Medical News

ILLINOIS

Personal.—Dr. Charles L. Patton, Springfield, has succeeded the late Dr. John A. Prince as a member of the staff of the David Prince Sanitarium.——Dr. Robert H. Bell, Carlinville, has been chosen physician of Macoupin County.——Dr. James L. Funkhouser, Chrisman, sustained painful bruises in a runaway accident, January 5.

Occupational Poisons.—The report of the Occupational Diseases Commission, which has been sent to the general assembly, states that thirty distinct poisons constantly menace the life and health of factory workmen of Illinois. Lead is by far the most important industrial poison, but risk from this cause may be almost entirely eradicated by the prevention of dust, by prohibiting eating with unwashed face and hands, and by preventing workmen from going home with lead on their clothing and bodies. Reports are also included on the effects of brass fumes and carbon monoxid gas.

The Governor's Message.—The governor, in his biennial message, suggests that the legislature give the matter of a state sanatorium for consumptives careful consideration; recommends that a law be enacted providing for better methods of registration of vital statistics to be in conformity with those adopted by the leading states' and the provisions of the census bureau of the United States government; calls the attention of the general assembly to the need of the revision of that section of the medical practice act of Illinois which enables the board to revoke certificates of physicians for unprofessional or dishonorable conduct, recommending that an amendment be now enacted empowering the board to revoke licenses of any practitioner whether licensed prior to or subsequently to July 1, 1899. He also repeats the recommendation made to the previous general assembly that appropriations for the free distribution of diphtheria antitoxin be continued.

KANSAS

Hospital Cornerstone Laid.—The cornerstone of the new Bethany Hospital, Kansas City, was laid recently with appropriate ceremonies. The building is to cost $160,000, will be five stories and basement in height, and will accommodate 153 patients.

Personal.—In a fire at Moline, January 11, which destroyed property valued at $50,000, Dr. John W. Farrow suffered the total loss of his office.——Dr. A. L. Shelton and family, formerly of Anthony, have returned after a seven years' sojourn in West China and Thibet.——A fire, January 2, in Wichita, caused damage of $135,000, and destroyed the office and equipment of Drs. Ernest E. Hamilton and Harry A. Johnson.——Dr. George W. Davis, Ottawa, is reported to be seriously ill.——Dr. Lincoln W. Griffin, Fort Scott, sustained serious injuries in a runaway accident, December 26.——Dr. George M. Covert, Arkansas City, is reported to be seriously ill.

KENTUCKY

Hookworm in Kentucky.—To ascertain whether the hookworm thrives in Kentucky, the State Board of Health has decided to extend the Rockefeller Commission an invitation to send a representative to the state.

Physician Secures Verdict Against Physician.—Dr. Robert E. Gatz, Louisville, is said to have secured a verdict of $777 against Dr. Clarence H. Harris, Louisville, whom he sued for $25,027. The plaintiff claimed that he had him arrested for malice in a dispute over a street car case.

Favors Milk Fund.—An ordinance introduced at the meeting of the Louisville City Council, January 4, appropriating $1,500 to the Babies' Milk Fund Association was referred to the health committee, which reported favorably at a meeting, January 10, but so amended it as to increase the appropriation to $2,000.

Personal.—Dr. William A. Jenkins, Louisville, has been elected visiting physician to the School of Reform, vice Dr. William Bailey, resigned.——Dr. J. Rowan Morrison has been appointed a member of the Louisville Milk Commission, vice Dr. John W. Blanton, deceased.——Dr. Thomas W. Gardiner, Hopkinsville, has been reappointed a member of the State Board of Control of Charitable Institutions.

The Distillery Slop Question.—The State Board of Health has issued an order that all distilleries feeding slop to cattle must so regulate it that none of the pollution can run into a stream of even the smallest size, provided that stream finally reaches a river or other stream from which water is taken for drinking purposes. A committee from the board has been appointed to decide how long a time constitutes a reasonable time in which to comply with the rules of the board. Frankfort is the city most vitally interested in the enforcement of this rule as the water from the Kentucky river is contaminated by distilleries located above the city.

MARYLAND

Scarlet Fever Prevalent.—Dr. Warren P. Morrill, Baltimore, superintendent of the Sydenham Hospital for Infectious Diseases, reports that the institution is full and that further cases must be refused. Scarlet fever has been exceedingly prevalent since the first of December and cases of that disease only have been admitted to the institution.——A second outbreak of scarlet fever is reported at Western Maryland College, with six cases. The college was closed on account of the first outbreak, December 1.

Personal.—Among physicians recently elected bank directors are the following: Drs. Charles S. McCauley, J. McPherson Scott, Edward A. Wareham and O. H. William Ragan, Hagerstown.——Dr. Thomas R. Boggs, formerly chief resident physician at Johns Hopkins Hospital, Baltimore, has assumed the duties as physician-in-chief at Bayview Asylum; Dr. Gordon Wilson, as physician-in-chief of the Tuberculosis Hospital; Dr. H. D. Purdon, as physician-in-chief of the Insane Hospital, and Dr. Milton C. Winternitz, as pathologist-in-chief.——Dr. Henry M. Baxley has been appointed assistant house physician, and Drs. Edward E. Mackenzie and Edmund A. Munoz, assistant physicians on the staff of the Baltimore General Dispensary.——Dr. John M. T. Finney has been appointed a member of the Baltimore school board.

MICHIGAN

Honor Dr. Burr.—A dinner was given by the Genesee County Medical Society, December 20, in honor of Dr. Colonel B. Burr, Flint, president of the state medical society, in honor of his recent election and in recognition of his labors in the local organization. About fifty physicians were present.

To Save Medical Building.—The alumni of the University of Michigan are endeavoring to raise $50,000 to preserve the old medical building, one of the oldest on the campus, as a memorial to the medical department. The amount required will practically reconstruct the building from the inside without changing the outside appearance. The intention is to make the building a medical library and museum.

The Governor's Message.—Governor Osborn, in his inaugural address, notes the multiplication of state boards. There are eight boards whose titles, at least, relate to the public health, and most of these could be incorporated in the State Board of Health. The Board of Examiners of Barbers should, he believes, be abolished, and its work put in the hands of the State Board of Health. He approves of state legislation holding publishers accountable for printing palpably dishonest and fraudulent announcements.

Personal.—Dr. Ross U. Adams, Kalamazoo, was accidentally shot in the left arm in a restaurant in Kalamazoo, December 30.——Dr. Louis Barth, Grand Rapids, was the guest of honor at a birthday dinner, January 3, at which a silver loving-cup, on which the autographs of the donors had been engraved, was presented him.——Drs. James F. Rumer, Davison, and Rowland H. Conner, Saginaw, have resigned from the State Pardon Board.——Dr. Oliver B. Campbell is about to open a private hospital in Ovid.——Dr. William P. Scott, Houghton, has been appointed local physician for the Duluth, South Shore and Atlantic Railroad, vice Dr. Henry W. Jones, resigned.——Dr. James L. Passmore, Saginaw, who has been ill with septicemia, is reported to be convalescent.——Dr. Thaddeus H. Ames, Kalamazoo, has sailed for Europe.

MINNESOTA

Goldthwait in Minnesota.—Dr. Joel E. Goldthwait, Boston, made a short visit to Minnesota last month, delivered a lecture before a union meeting of the Ramsay and Hennepin County Medical Associations on "Our Present Conceptions of Rheumatoid Disease;" gave a clinic at the City Hospital, and was given a supper at the Town and Country Club by Dr. Alexander R. Colvin, St. Paul, the next evening.

Personal.—Dr. Howard Lankester has been appointed health officer of St. Paul, vice Dr. Gustav A. Renz. Dr. Lankester will assume office in March.——Dr. John E. Campbell has been reelected health commissioner of South St. Paul, and Drs. Llewellyn D. Peck, Hastings; James A. Sanford, Farmington; Thomas J. Gaffney, Lakeville, and Ernest W. Hammes, Hampton, physicians for Dakota County.——Dr. James Hynes, Minneapolis, has been appointed physician of Hennepin County, vice Dr. Thomas T. Warham.——Dr. F. F. Wesbrook, dean of the faculty of medicine of the University of Minnesota, has resigned as director of laboratories for the State Board of Health.

Health Board Election.—At the annual meeting of the State Board of Health, held in St. Paul, January 10, Dr. William A. Jones, Minneapolis, was elected president, vice Dr. Henry Hutchinson, St. Paul, deceased.——Dr. Burton J. Merrill, Stillwater, vice-president; and Dr. Robert H. Mullen, Minneapolis, head of the state laboratory, vice Dr. Frank F. Wesbrook, resigned.——Dr. Henry M. Bracken, the secretary, in an address delivered before the Woman's Club of Minneapolis, January 3, gave an outline of the legislation which the board endorses. This includes a list of proposed legislative acts as follows: "Medical inspection in the public schools of the state; power to condemn unsanitary school buildings; compulsory reporting of tuberculosis; state aid for county sanatoria; clean bill of health required for children from homes where there is tuberculosis; segregation of tuberculous persons living in almshouses; to permit county commissioners to employ visiting nurses; increased salaries for superintendents of state institutions; state dog license law; and control of water and sewerage system."

MISSISSIPPI

Personal.—Dr. Hyman M. Folkes, Biloxi, has leased the Gulf Coast Health Resort on the Gulf of Mexico to Dr. William R. Card, his former associate, for three years. Dr. Folkes will continue to have a surgical service in the institution.——Dr. Robert L. Turner, Meridian, was shot and seriously wounded, December 3, by a nurse who had applied for, and had been refused, the position of superintendent of the institution.——Dr. George H. McNeill has been elected a member of the city council of Newton.

Society Meetings.—The Newton-Neshoba-Winston County Medical Society at its meeting in Newton, elected the following officers: president, Dr. Joseph N. Whittle, Union; secretary-treasurer, Dr. Sidney A. Majure, Dixon, and delegates to the state association, Drs. Inman W. Cooper, Newton; Daniel J. Rush, Philadelphia, and William W. Hickman, Noxapater. ——Harrison County Medical Society met at Gulfport and elected the following officers: Dr. George F. Carroll, Biloxi, president; Dr. Duke G. Mohler, Gulfport, vice-president; Dr. Benton Z. Welch, Wool Market, secretary-treasurer; Dr. Hyman M. Folkes, Biloxi, censor; and Drs. Edward C. Parker, Gulfport, and Walter H. Rowan, Wiggins, delegates to the state medical association.——At the annual meeting of Jefferson County Medical Society, held in Fayette, Dr. John C. McNair, Fayette, was elected president; Dr. Colon L. Simmons, McBride, vice-president, and Dr. John H. Carradine, Fayette, secretary-treasurer.——Warren County Medical Association, at its meeting in Vicksburg, January 10, elected the following officers: president, Dr. Hollie B. Wilson; vice-president, Dr. Charles E. Edwards, Jr.; secretary-treasurer, Dr. Ewing F. Howard; censor, Dr. George Y. Hicks, and delegate to the state association, Dr. William B. Dougherty, all of Vicksburg.

MISSOURI

Building for Physicians.—A thirteen-story building is being constructed in Kansas City at a cost of $600,000. The building is intended especially for the use of physicians and dentists, and will be ready for occupancy in the summer.

Antituberculosis Society Election.—At the annual meeting of the Buchanan County Society for the Relief and Prevention of Tuberculosis, held in St. Joseph, Dr. Oliver C. Gebhart was reelected secretary-treasurer, and Drs. Daniel Morton and Emmett S. Ballard, directors, all of St. Joseph.

Personal.—Dr. Addison M. Harrison, Lees Summit, has been appointed superintendent and physician of the Jackson County Home, vice Dr. G. Cleveland Hall, Lees Summit.——Dr. Alice Graham, Kansas City, superintendent of Mercy Hospital for Crippled Children, has taken a vacation for one year on account of ill health and has started for California.——Dr. Justin W. Lampson, superintendent of State Hospital No. 3, Nevada, has resigned on account of ill health and will return to his home in Neosho.——Dr. Michael R. Balliet, Pleasant Hill, was run over by a passenger train, January 10, sustaining injuries to the legs which necessitated amputation at the ankles.

Half a Million for Charity Hospital.—At a meeting of the congregation of the Independence Boulevard Christian Church, Kansas City, January 9, $519,000 was donated for a nonsectarian charity hospital. Of this, $400,000 is a conditional gift of R. A. Long, distributed as follows: $200,000 for grounds and initial buildings, provided $150,000 for endowment is raised on or before April 1; for years 1914 to 1917, inclusive, investment of $50,000 a year in additional improvements and equipment, provided there is raised from other sources an average of $62,500 a year. Among the principal contributors to the fund are Dr. William E. Minor, Kansas City, $20,000; Dr. John Bryant, Independence, $5,000; Dr. Harry H. Temple, Kansas City, $2,500, and Dr. Jabez N. Jackson, Kansas City, $1,000.

St. Louis

Alumni Dine.—The annual banquet of the Medical Society of the City Hospital Alumni was held January 5, at which the following officers, elected at the annual meeting, December 1, were installed: president, Dr. William H. Luedde; vice-president, Dr. Louis J. Oatman; secretary, Dr. Frederick C. Simon, and treasurer, Dr. Percy H. Swahlen.

Physicians Charged with Withholding Reports.—Suit has been entered against six physicians charged with failing to report cases of contagious disease.——For failure to report an alleged case of chicken-pox, Dr. Allie B. Wilburn is reported to have been fined $25 and costs, December 30. Dr. Wilburn declared the case one of urticaria and filed an appeal.

Personal.—Dr. Paul Y. Tupper, while attempting to cross the Mississippi River at Elsberry, broke through the ice and narrowly escaped drowning.——Dr. Edgar M. Senseney drove his automobile over a 40-foot sloping embankment into a ditch, December 25, but fortunately escaped injury.——Dr. F. E. Guibor, mayor of Maplewood, is ill with diphtheria.

Dr. Hare in St. Louis.—The Jefferson Medical College Alumni Society of St. Louis will hold its annual banquet January 28. Dr. Hobart Amory Hare, Philadelphia, will be the principal speaker. Dr. Hare will also address the St. Louis Medical Society on the same evening on "The Bearing of Old and New Facts on Our Conceptions of Cardiovascular Disease."——The Pennsylvania Society of St. Louis will hold its annual dinner, January 27, at which Dr. Hare will be present.

NEW YORK

In Memory of MacDonald.—In honor of the late Dr. Willis Goss MacDonald, Albany, it has been decided to erect a permanent memorial in the form of a laboratory building for scientific research to be a part of the equipment of the Albany Medical College in its new location.

Infantile Paralysis.—In the investigation of this disease in the state the State Health Department has secured the aid of the federal government and Passed Assistant Surgeon W. H. Frost of Washington has been detailed to investigate and make a report. Dr. Frost recently conducted the investigation of this disease for the government in Iowa.

In Memory of Pioneer Women Physicians.—The Woman's Medical Association of New York will meet on January 25 at 8:30 p. m. at the Academy of Medicine to honor the memory of Dr. Elizabeth Blackwell and Dr. Emily Blackwell. Addresses will be delivered by Drs. Stephen Smith, Abraham Jacobi, William H. Welch, William M. Polk, Dr. Emma B. Cuthbertson and Miss Alice Stone Blackwell.

Personal.—At a meeting of the managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, January 10, Dr. John Joseph Nutt, New York City, was elected surgeon-in-chief of the hospital, vice Dr. Newton M. Shaffer, New York City, resigned, to become chairman of the executive committee of the board of managers.——Dr. William B. May, Buffalo, has been appointed director of the division of communicable diseases of the State Board of Health.——Dr. Theodore C. Janeway, for eight years physician of the City Hospital, Blackwell's Island, has resigned.

Carnegie Laboratory Anniversary.—New York University celebrated the completion of the first twenty-five years of the work of the Carnegie Laboratory and the formal opening of the Carnegie Laboratory extension to which Mr. Carnegie contributed $75,000. Among the speakers were Drs. William H. Welch, Hermann M. Biggs and Jerome D. Greene. Dr. Egbert Lefevre, dean of the University and Bellevue Medical College, on behalf of the college. presented Mr. Carnegie with four volumes containing researches which have been published by members of the staff during the last few years. Mr. Carnegie intimated that an additional benefaction might be had for the asking. The new laboratory is six stories high and occupies a lot 25 by 100 feet.

OHIO

For Study of Bacteria.—The city council of Toledo has appropriated $1,000 for a bacteriologic outfit for the city health department.

Medical College Building Burns.—Fire, caused by an overheated furnace, completely destroyed the Toledo Medical College building, January 8. The loss is estimated at $25,000.

Personal.—Dr. James S. Berry, Peebles, is reported to be critically ill.——Dr. Edward W. Misamore, Cygnet, has been appointed coroner of Wood County, vice Dr. Dwight R. Canfield, Perrysburg.——Dr. Joseph W. Chetwynd, for four years an assistant physician at the Massillon State Hospital, has resigned and will practice in East Liverpool.——Dr. Ada Ford has resigned as assistant physician in the Athens State Hospital and will locate in Mansfield.

State Board Election.—At the annual meeting of the Ohio State Board of Medical Registration and Examination, held in Columbus, January 3, Dr. Sylvester M. Sherman, Columbus, was reelected president and treasurer; Dr. James A. Duncan, Toledo, vice-president, and Dr. George H. Matson, Columbus, secretary. A resolution was adopted that all applicants for reciprocity certificates must be bona fide residents or recent graduates of colleges in states from which the applicants come, and that they must make declaration of their intention to become residents of Ohio.

Medical Teachers Convene.—At the sixth annual meeting of the Ohio Association of Medical Teachers, held in Columbus, December 27, a number of interesting papers were read and discussed. At the evening session the association adopted a resolution that the State Board of Medical Examination and Registration be requested to join with the Ohio State Medical Teachers Association and the Ohio College Association in petitioning the state legislature to pass a law requiring two years of work in a college of liberal arts as preliminary to entrance into a medical college. Starling-Ohio Medical College gave a banquet in honor of the association, following which President William Oxley Thompson, of the Ohio State University, delivered an address on "Ethics of the Profession." The following officers were elected: president, Dr. Kennon Dunham, University of Cincinnati, Medical Department; vice-president, Dr. William D. Inglis, Starling-Ohio Medical College, Columbus; secretary, Dr. Elmer I. McKesson, Toledo University Medical College; treasurer, Dr. Charles W. McGavran, Starling-Ohio Medical College, Columbus, and executive committee, Drs. F. C. Waite, Western Reserve University Medical Department, Cleveland; Lyman Watkins, Eclectic Medical College, Cincinnati; F. H. Staples, Cleveland-Pulte Homeopathic Medical College, Cleveland; James U. Barnhill, Starling-Ohio Medical College, Columbus, and E. Otis Smith, University of Cincinnati Medical Department.

Cincinnati

Playground for Children's Hospital.—The Episcopal Hospital for Children has been presented by Mrs. Lars Anderson with a lot 65 by 250 feet, adjoining the hospital property, and this will be used as a playground for the children.

Personal.—Dr. William M. Withrow has been appointed a member of the Union Board of High Schools and trustee of the Woodward High School.——Dr. William G. Strietmann has been appointed assistant health officer.——Dr. Stephen B. Marvin has been reelected president of the board of education. ——Dr. Daniel M. Denman has been elected district physician, vice Dr. William T. Lindsay, resigned.——Dr. William W. Bailey has been appointed district physician, vice Dr. Arthur Vos, resigned.——Dr. Christian R. Holmes has been called on to act as advisory expert in the preparation of plans for the new Louisville Hospital.

Academy Election.—At the annual meeting of the Cincinnati Academy of Medicine, January 9, the following officers were elected: president, Dr. William D. Haines; vice-presidents, Drs. J. Ambrose Johnson and Robert C. Jones; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander G. Drury; librarian, Dr. Arch I. Carson; trustee, Dr. E. Gustav Zinke; censor, Dr. Albert H. Freiberg; delegates to the state association, Drs. George Strohbach and William Gillespie; alternates, Drs. Samuel Iglauer and John H. Landis, and member of auxiliary committee on public policy and legislation, Dr. Charles A. L. Reed.

PENNSYLVANIA

Philadelphia

Memorial to Founder of the University Medical Department.—The school of medicine, founded in this city by Dr. John Morgan, eventually became the Medical Department of the University of Pennsylvania, known to be the first medical school in this country. It has been proposed to erect a memorial to Dr. Morgan in which his remains may be laid. A meeting was held at the office of Provost Smith, January 13, at which a circular was framed which will be sent out in a short time.

Antitoxin Reduces Diphtheria Mortality.—According to statistics prepared by Dr. Andrew A. Cairns, chief medical inspector of the Bureau of Health, it is shown that prior to 1896, the death-rate from diphtheria was more than 30 per cent., but that since the use of the antitoxin became general, the death-rate has never exceeded 20 per cent. In 1909, it was 13.2 per cent. and in the year just closed it was 12.93 per cent. The figures for 1910, which have just been completed show 3,804 cases of diphtheria reported with 492 deaths. In 1909, there were 2,329 patients in the Municipal Hospital, of whom 243 died, a percentage of 10.43, while last year 2,235 patients were taken to the city institution, where 203, or 9.08 per cent, died.

FOREIGN NEWS

International Congress for Psychiatry.—The next international congress for psychiatry is to be held at Moscow, Russia, in 1912.

Professional X-Ray Injury.—Dr. Fischer, chief of the Roentgenologic service at the general hospital at Copenhagen, has had two fingers of his left hand amputated on account of Roentgen-ray ulceration.

Industrial Diseases.—Italy has taken the lead in inaugurating a clinic especially for study and treatment of occupational affections, as already mentioned. It is at Milan, but five other Italian cities are giving courses of lectures on industrial diseases and are training specialists in this new branch of medical science. The third international congress on prevention and treatment of industrial diseases is to be held at Vienna in 1914.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 7, 1911.

Lead Poisoning from Soda Water

An inquest has been held on a physician's wife who died at Scarborough, Yorkshire, from lead poisoning due to drinking contaminated sodawater; she had been in the habit of drinking the contents of about two syphons weekly. Evidence was given that the Scarborough water-supply contained no trace of lead, but that the contents of three syphons of soda-water supplied to the deceased, of which she had partly used one, contained lead in the following proportions: In the last there was lead in the proportion of 1/16 grain per gallon, in another the same amount, and in the third 1/40 grain per gallon. The taps of the syphon were made of block tin and contained lead. Drinking water which contains lead in the proportion of more than 1/50 grain per gallon is not considered fit for use. On the other hand, the saloon proprietor who supplied the syphons gave evidence that he supplied many families and used three syphons a week himself and had never known of any ill effects.

Schools for Mothers

A most useful institution of recent development is the school for mothers. Most schools have been established within the last three years. They have arisen mainly for the purpose of diminishing the high infant mortality which prevails, a purpose intensified by disquiet at the declining birth-rate. Ignorance of infant needs is prevalent among a large proportion of the mothers of the working class, who during adolescence have been engaged in industrial work and therefore have had little experience of domestic life. The essential of a school for mothers is a physician, or at least a nurse, from whom instruction and advice are obtainable and to whom the infant is regularly taken for inspection. Around this central notion may cluster many other activities—home visiting, classes in hygiene, cookery, dress-cutting, provision of dinners for expectant and nursing mothers, provident clubs, etc. The treatment of sick infants is beyond the scope of the school; the mother is referred to a physician, dispensary, or other agency, according to the circumstances of the case. Many schools are administered by societies specially formed for the purpose. In several cases existing health societies have taken up this branch of work. Thus at Birmingham the work is carried on by a maternity hospital among the women who live near enough to attend with their infants. A well-conducted school endeavors to secure the attendance of its members once in two weeks, at least for the inspection of the infants. This "consultation" gives opportunity for pointed instruction. In addition there are at many places regular classes for cookery, hygiene, infant care, sewing, knitting, etc. The benefit of the instruction is diffused beyond the members of the school, for mothers who have been instructed become centers of enlightenment for their neighbors. Leaflets of instruction are also frequently distributed. Some schools have a large number of members. Thus 765 mothers attend the Birmingham school, 600 the Kensington, 400 the Leeds. Systematic home visiting is always combined with class-room instruction. Much that is taught in a class-room seems unreal to the poorer and sometimes the well-to-do classes, and it is necessary to apply it in the actual conditions of home life to make it a vital subject for them. There is also systematic provision for looking up mothers who fail to attend regularly at consultations. At a few places, in all cases of childbirth in the district in other than the well-to-do classes the mothers are visited for some time. In some cases the school is run by the municipality; in others, by private philanthropic societies, which occasionally are assisted by municipal grants. In some places the school is practically a branch of the public health work and is superintended by the health officer and the municipal health visitor. In other places voluntary helpers visit under the oversight of public health authority. The salaried officers employed by the schools are few, several schools have no paid officials at all; few have paid superintendents or health visitors. Excluding municipal schools, in only two instances are payments made to physicians. In some cases private schools have the services of health visitors in the employ of the local health authority. Voluntary workers are numerous, there are twenty or more in as many institutions. As many as 300 give their services to the Glasgow Corporation Infant Consultations, a number which is not approached at any other place. Records are kept by the schools showing the weight and general condition of the child, and a card is given to the mother containing directions. Most schools restrict their work to children under the age of 12 months. Adequate data do not yet exist to show the results achieved, but in many reports reference is made to improved conditions in the neighborhood in which the work is carried on, and to a lower death-rate among the infants who are brought to the school than among infants in the district generally.

The Journal of Meat, Milk and Hygiene

Specialization in medical journalism has shown a new development in the appearance this month of a periodical with the above title, which is also described as "A Monthly Review Devoted to Securing an Efficient Supply of Meat and Milk." The first number gives promise of a high standard. There are three original articles: "Meat Poisoning; Its Nature, Causation and Prevention," by Professor McWeeney of Dublin; "Actinomycosis in Cows' Udders," by J. H. Patterson, bacteriologist; "The Public Slaughterhouse System in Scotland," by Dr. Dittmar, Medical Inspector. Notes and abstracts follow on such subjects as "Phlegmatous Inflammation of the Stomach of a Pig," "Cysticercus Bovis," "'Worm Nests' in Cattle Due to the Filaria Gibsoni" and "Microbes Isolated from an Egg." Under Annotations "A Uniform System of Meat Inspection," "Foreign Meat Regulations" and other topics are discussed.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, Jan. 6, 1911.

Salvarsan (606) In Syphilitic and Parasyphilitic Nervous Disease

On January 3, at the Académie de médecine, Dr. Weiss read a communication from Dr. Ehlers of Copenhagen, reporting the case of a general paralytic, who on August 10 received an injection of 0.05 cg. of salvarsan. Some days afterward, trembling and crises of perspiration, loss of strength and fever occurred. Five days after the injection the patient died of cardiac paralysis. Autopsy revealed only parenchymatous degeneration of all organs. Dr. Ehlers does not hesitate to attribute the death to arsenical poisoning. [This fatality was mentioned in THE JOURNAL, Nov. 26, 1910, p. 1941.]

Following Ehrlich's directions, Dr. Ehlers treated with salvarsan seven syphilitics who had malignant tertiary lesions which were refractory to mercury. These seven cases were followed up after the injection and it was ascertained that the often miraculous improvement obtained in most of these patients is sustained only from eight to fifteen days in severe cases, and as long as a month in others. Among these seven patients there were relapses, the condition of most being as serious as before the treatment.

Moreover, Dr. Sicard, *agrégé* professor at the Paris medical college, communicated to the Société médicale des hôpitaux the results that he, with Dr. Marcel Bloch, obtained by means of salvarsan on forty-three patients affected with syphilitic or parasyphilitic diseases, such as tabes, general paralysis, cerebrospinal syphilis and syphilitic hemiplegia and paraplegia. From these results, it may be inferred that salvarsan is efficacious in syphilitic nervous diseases, including tabes, only when these are of recent date. In these cases the action of Ehrlich's remedy is superior to that of mercury, not only from the specific point of view, but also because arsenic medication, even in heavy dosage, has not the depressive effect of mercurial medication. On the contrary, among general paralytics treated with salvarsan, even at the first appearance of the signs of the disease, the result was nil, and likewise in long-standing cases of syphilitic hemiplegia and paraplegia.

The technic of choice appears to be intravenous injection, which permits the passage of salvarsan into the cerebrospinal fluid, followed some days later by injections of salvarsan in an oil medium into the gluteal muscles according to the method of Lévy-Bing and Lafay (THE JOURNAL, Dec. 3, 1910, p. 1994).

The Wassermann reaction, contrary to observations in the course of cutaneous and muscular syphilids, is only exceptionally modified after the treatment, even in patients who have received benefit from it.

Limitation of the Number of Liquor Licenses

The Senate has passed, by 156 votes against 59, the first clause of the bill to limit the number of liquor licenses. According to this clause the number of cafés, etc., selling alcoholic liquors or *apéritifs* other than those with a base of wine titrating at less than 23 degrees, to be consumed on the spot, is fixed at three for a commune of 600 inhabitants and under and at one for each 200 inhabitants above this number. A necessary distinction has thereby been established between hygienic and other drinks; the vendors of wine, beer, cider, coffee and tea are not limited; a restriction is placed only on establishments for the sale of alcohol, alcoholic drinks and beverages containing poisonous essences. At present there are in France more than 500,000 places licensed to sell drinks, that is to say, one for each eighty inhabitants or one for each thirty adults.

Glycosuria and Surgical Intervention

At the Academie de Médecine, on December 20, Dr. Bazy read a paper tending to show that glycosuria, even if it does not disappear completely under appropriate treatment, is not a contraindication to operation. Dr. Bazy reports observations on several patients affected with more or less intense glycosuria, who successfully underwent serious operations, such as excision of the tongue, internal urethrotomy, transvesical prostatectomy, exploratory laparotomy, total abdominal hysterectomy. Moreover, an increase in the quantity of sugar in the urine after the operation has been decided on, instead of being a contra-indication, may be really an indication for operation.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Dec. 23, 1910.

German Physicians in 1910

According to the medical directory (*Reichsmedizinalkalender*) published by Professor Schwalbe, the number of physicians in Germany last year was 32,294. As according to official statistics Germany has a population of 64,775,000, there are 5.01 physicians to 10,000 inhabitants. The number has increased by 480 over the previous year and the increase in the number of physicians slightly exceeds the increase in population. That in the next few years a relative increase is to be expected, is shown by the fact that the number of medical students has rapidly risen. In the summer of 1905, 6,032; 1906, 6,570; 1907, 7,574; 1908, 8,250; 1909, 9,239; 1910, 11,125. Foreign students are included in these figures and their number has also slowly risen. Also the number of physicians licensed in the last three years has increased. In 1906-07 it was the lowest, 553; the following year it had grown to 829, and in 1908-09, 942 physicians were licensed (*approbiert*). As usual the increase in physicians is most notable in the large cities. Relatively to the population, however, the number of physicians in the large cities has receded somewhat.

The number of licensed women physicians in Germany has undergone a remarkable relative increase. In 1908 there were only 55, in 1909, 69, while at present there are 102; in Berlin alone, there are now 32. The number of women medical students has also remarkably increased. In the winter of 1909-10 there were 371, in the summer of 1910, 512, including the foreigners. The number of specialists is still increasing. In 1906, 6.952=20.2 per cent. of all physicians; in 1910, 7,272=22.40 per cent. The most of these are gynecologists, principally in the large cities; in the second place come the oculists, and, third, specialists in ear, nose and throat. The largest percentage of specialists, is found as in former years in Dresden, 44.2 per cent. The following have over 40 per cent.: Stuttgart, Leipsic, Frankfort a. M., Plauen and Nuremberg; Greater Berlin has only 32.8 per cent. The smallest percentage, 18.5 per cent., is found in Kiel.

Reduction of the Birth-Rate in Prussia

For the entire state of Prussia there has occurred a reduction in the ratio of fertility, that is, in the number of births per 1,000 women capable of child-bearing, between the ages of 15 and 45. This ratio has declined from 174.60, in the quinquennium from 1876-80, to 161.85 for 1896-1900, and 154.83 in the period from 1901-1905. In the cities the ratio has declined from 160.64 to 129.12. In the rural districts, the ratio of fertility for 1876-80 was 182.93, which figure was even exceeded by the rate of 183.06 for 1896-1900 and even the figure for 1901-1905 remained at 178.72, only a little behind the initial ratio. It is the falling birth-rate in the cities which occasions the marked diminution of the general fertility. This phenomenon is especially notable in Berlin and the cities of the province of Brandenburg. The fertility ratio in Berlin sank from 149.21 in 1876-80 to 88.78 in 1901-05, a reduction of more that 40 per cent.

At the same time the ratio in the cities of the province of Brandenburg fell from 169.06 to 109.21. In the cities of Posen, West Prussia and Westphalia, the ratio has been well maintained. The lowest fertility outside of Brandenburg is exhibited by cities in Hesse-Nassau in which the ratio has fallen from 134.27 to 106.23. The country district of Brandenburg shows a marked reduction, from 174.87 to 137.61. Also in Pomerania the ratio has sunk from 185.85 to 171.09, in Saxony from 183.03 to 162.36, and in Hesse-Nassau from 177.67 to 153.60. Schleswig-Holstein and Hanover have lost from 2 to 3 per cent. The other six provinces, however, show a rise of the country fertility, most marked in Westphalia (190.29 to 205.10) and Silesia (181.66 to 192.23).

Marriages

John William Ekblad, M.D., to Miss Elda Downing, both of Scandia, Kan., January 4.

James Hamson Wolverton, M.D., to Miss Ruth Grant, at Balmorhea, Tex., December 25.

Will Dana Shelby, M.D., to Miss Elizabeth Carter, both of Canton, China, November, 1910.

Carl C. Vogel, M.D., Elroy, Wis., to Miss Delia M. Droshos of Milwaukee, Wis., December 24.

John Herr Musser, Jr., M.D., to Miss Marguerite Hopkinson, both of Philadelphia, January 7.

Samuel Pilgram Gerhard, M.D., to Miss Laura May Kaufmann, both of Philadelphia, January 12.

Henry Glover Langworthy, M.D., Dubuque, Ia., to Miss Bertha Schmidt, in Chicago, December 29.

George Washington Mitchell, M.D., Peoria, Ill., to Miss Myrtle McKee of South Dakota, January 3.

Edward Warwick Pinkham, M.D., New York City, to Miss Bessie Leverett Ray of Alton, Ill., January 3.

James Elmer Donnell, M.D., Cuba City, Wis., to Miss Aruba A. Blades of Dubuque, Ia., December 28.

Charles E. Ragan, M.D., Clinton, Ind., to Miss Evangeline Trotter of Danville, Ind., in Chicago, December 25.

Andrew Leonard Skoog, M.D., Kansas City, Mo., to Miss Anna Belle Gordon of Pueblo, Colo., December 21.

Thomas Vaughan Crandall, M.D., Philadelphia, to Miss Clara L. Dorr of Dorchester, Mass., December 31.

Henry Arthur Geitz, M.D., to Mrs. Helen Marie Steer, both of St. Louis, at Rockaway Park, Long Island, N. Y., January 2.

Deaths

Charles John Kipp, one of the most prominent specialists on diseases of the eye and ear of the United States, died at his home in Newark, N. J., January 13, aged 72. He was a native of Germany, graduated from the College of Physicians, New York City, in 1861; entered the army a year later as acting assistant surgeon; in 1863, he became an assistant surgeon, U. S. V., major and surgeon in 1864, and was brevetted lieutenant colonel in 1865, resigning from the medical corps of the army in 1868. He was a member of the American Medical Association, and second vice-president in 1909; formerly president, and later chairman of the board of trustees of the Medical Society of New Jersey; president of the American Ophthalmological Society in 1907, and of the American Otological Society in 1908. He had served as surgeon to the Newark Eye and Ear Infirmary since 1880, as president of the board of managers of the New Jersey Sanatorium for Tuberculous Diseases from 1901 to 1906, and as consulting surgeon to many hospitals. Dr. Kipp was the author of numerous articles in medical *journals and of* sections in medical encyclopedias on subjects connected with his specialty.

***Horace Smith Fuller*, M.D.** College of Physicians and Surgeons, New York City, 1865; for many years medical examiner of Hartford, Conn.; died suddenly in that city, December 30, from heart disease, aged 75. Immediately after graduation, Dr. Fuller became an acting assistant surgeon in the United States Army and continued on duty until August, 1865. He was for many years a member of the American Medical Association. From 1877 to 1884 he served as coroner and chairman of the health committee of Hartford and thereafter as medical examiner under the new law. For more than twenty-five years he was visiting physician and surgeon at the Hartford Hospital and later consulting physician and surgeon to the hospital. He was a member of the State Board of Medical Examiners since its inception, and for four years its president. In 1879 and 1880 he was surgeon-general of the state, and from 1873 to 1885 a member of the local board of pension examiners. On January 3, 1910, at the annual meeting of the Hartford Medical Society, Dr. Fuller was presented with the Gurdon W. Russell loving-cup which is retained by the dean of the profession in the city.

Darwin Colvin, M.D. Geneva (N. Y.) Medical College, 1844; a member of the American Medical Association, and second vice-president in 1887; one of the founders of the New York State Medical Association and its president in 1896; president of the Wayne County Medical Society, and Medical Association of Central New York in 1878; president of the village of Clyde from 1865 to 1867, and 1877; health officer and member of the board of education; a surgeon of volunteers during the Civil War; surgeon in the National Guard in 1866 and 1867; died at his home in Clyde, January 9, aged 88.

John Spottswood Wellford, M.D. University of Pennsylvania, 1846; one of the oldest members of the Richmond Academy of Medicine; a surgeon in the Confederate service during the Civil War; for nearly half a century professor of diseases of women and children in the Medical College of Virginia, Richmond, and later emeritus professor; died at his home in Richmond, January 1, aged 85. At a meeting of the faculty of the college of which he was so long a member, resolutions of sorrow and sympathy were unanimously adopted.

Charles James Curran, M.D. New York University, New York City, 1882; a member of the North Berkshire Medical Society; a member of the Board of Health of North Adams, Mass., from 1881 to 1887; town physician in 1887 and 1888; for several years a member of the local pension board; from 1891 to 1896, a member of the State Board of Lunacy and Charity; city physician in 1905 and 1906; a member of the staff of the North Adams Hospital; died at his home December 30, from cerebral hemorrhage, aged 49.

John Bartley Fleming, M.D. Washington University, St Louis, 1899; a member of the Missouri State Medical Association; secretary of the Lawrence-Stone County Medical Society; local surgeon at Aurora for the Missouri Pacific Railway; consulting physician to the Missouri State Sanatorium for Incipient Tuberculosis; died in the Deaconess Hospital, St. Louis, January 6, a week after an operation for appendicitis, aged 34.

Oliver A. Rea, M.D. Hospital College of Medicine, Louisville, Ky., 1883; a member of the American Medical Association, and for three years president of the Marshall County Medical Society; surgeon to the Culver (Ind.) Military

Academy, and formerly president of the Plymouth (Ind.) Pension Board; a veteran of the Civil War; died in Rochester, Ind., recently, after a surgical operation, and was buried January 9, aged 67.

Oscar Samuel Roberts, M.D. Medical College of Vermont, Burlington, 1864; University of Pennsylvania, Philadelphia, 1869; medical cadet during the Civil War; a member of the American Medical Association; consulting physician to the House of Mercy Hospital, Pittsfield, Mass; secretary of the local pension board since 1884, and for several years a member of the Pittsfield Board of Health; died at his home, January 4, aged 73.

Rufus Chambers, M.D. University of Louisville, Ky., 1882; Washington University, St. Louis, 1884; a member of the American Medical Association; lecturer on principles of surgery in the Medical Department of Fort Worth University; city physician of Fort Worth from 1901 to 1905, and thereafter physician of Tarrant County; died in St. Joseph's Infirmary, Fort Worth, December 29, from pneumonia, aged 50.

Cornelius Cole Bradley, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the American Medical Association; attending ophthalmologist to St. Joseph's Orphan Asylum and St. Joseph's Institute, and consulting ophthalmologist to the Home for Incurables, New York City; died at his home in New Rochelle, N. Y., December 30, from septic endocarditis, aged 48.

Edward Hamilton Trickle, M.D. Miami Medical College, Cincinnati, 1870; a member of the Ohio State Medical Association, and formerly president of the Washington County Medical Society; a veteran of the Civil War; for twenty years local pension examining surgeon; local surgeon of the M. C. and C. Railroad; died at his home in Cutler, January 8, from pneumonia, aged 74.

George Roberts Moore (years of practice); of Three Rivers, Mich.; a member of the Michigan State Association of Railway Surgeons; at one time division surgeon for the Chicago, Milwaukee and St. Paul Railway at Oxford Junction, Ia.; died at a hospital in Omaha, December 21, from pneumonia, following a compound fracture of the tibia caused by a runaway accident, aged 75.

William H. Krause, M.D. New York Homeopathic Medical College, New York City, 1873; consulting physician to the Hahnemann Hospital, New York City; a surgeon in the German service during the Austro-Prussian and Franco-Prussian wars; attending physician to the Bond Street Dispensary and examiner in lunacy; died at his home, January 7, from nephritis, aged 69.

William F. Davis, M.D. Jefferson Medical College, 1876; a member of the American Medical Association; for three years resident physician of the Charity Hospital, Philadelphia; a member of the local pension examining board of Dover, Del.; died in Jefferson Hospital, Philadelphia, December 31, aged 65, as the result of injuries received nine days before by the kick of a horse.

Edwin Lacy Gibson, M.D. University of Maryland, Baltimore, 1894; a member of the American Medical Association; physician to the Staunton (Va.) Military Academy; a member of the city council and local surgeon to the Baltimore and Ohio Railroad; died at his home, January 6, from typhoid fever, aged 41.

James Preston Watkins, M.D. College of Physicians and Surgeons, Baltimore, 1897; a member of the American Medical Association, and president of the council of the Chattahoochee Valley Medical and Surgical Association; died at his home in Opelika, Ala., August 18, from nephritis, aged 41.

James B. Tennell, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Piqua, O.; a practitioner for fifty-two years; and a member of the Ohio State Medical Association; died in the Cass County Infirmary, Logansport, Ind., December 31, from mental disease, aged 77.

John Abbott Prince, M.D. University of Michigan, Ann Arbor, 1887; a member of the American Medical Association; one of the proprietors of the David Prince Sanitarium, Springfield, Ill.; died suddenly at his home, January 1, from heart disease, aged 47.

Martin Van Buren Lonergan, M.D. College of Medicine and Surgery, Keokuk, Ia., 1877; a member of the Illinois State Medical Society; of Decatur; died from suffocation in a fire that destroyed the St. James Hotel, Pana, December 31, aged 58.

Walter C. Fulkerson, M.D. Kansas City (Mo.) Medical College, 1891; a member of the American Medical Association; for five years surgeon of the Denver, Enid and Gulf Railway at Marshall, Okla.; died in Guthrie, Okla., November 2, from dysentery, aged 41.

Charles Heil Hunsicker, M.D. Jefferson Medical College, 1900; a member of the American Medical Association; and associate in genito-urinary surgery Jefferson Medical College; died in Philadelphia, January 8, from carcinoma of the intestines, aged 34.

Robert J. R. Tilton (license, thirty-nine years practice, 1893); a member of the Kentucky State Medical Association, and for several years president of the Nicholas County Medical Society; died at his home in Carlisle, January 6, aged 79.

William J. Hodges, M.D. University of Louisville, Ky., 1890; a member of the American Medical Association; of Pineville, Ky.; died January 4, aged 43, as the result of injuries sustained by being struck by an L. and N. train a week before.

Willis Hall Vittum, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; a nose and throat specialist of St. Paul; died suddenly in his office in that city, December 29, from cerebral hemorrhage, aged 61.

Monmonier Rowe, M.D. College of Physicians and Surgeons, Baltimore, 1881; major of the First Battalion of the Fourth Infantry, Maryland National Guard; died suddenly at his home in Baltimore, December 31, from nephritis, aged 51.

James Cutler, M.D. Starling Medical College, Columbus, O., 1857; a veteran of the Mexican and Civil wars; local U. S. pension examining surgeon; died at his home in Richwood, O., December 19, from cancer of the stomach, aged 79.

Horace J. McDonald, M.D. American University of Pennsylvania, Philadelphia, 1876; a veteran of the Civil War; at one time pension examining surgeon; died at his home in LaCrosse, Wis., December 31, from cerebral hemorrhage, aged 71.

Frank Avery Coates, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the American Medical Association; died at his home in Mystic, Conn., September 11, from cancer of the throat, aged 59.

Jefferson B. Scearce, M.D. Jefferson Medical College, 1858; a member of the Ohio State Medical Association and Chillicothe Academy of Medicine; died at his home in Chillicothe, January 8, from angina pectoris, aged 73.

Harold D. Fitch, M.D. Miami Medical College, Cincinnati, 1908; of Cincinnati; a member of the Ohio State Medical Association; died in the Good Samaritan Hospital, Cincinnati, January 3, from pneumonia, aged 26.

George Valentine Hann, M.D. New York University, New York City, 1851; a member of the Medical Society of the State of New York; died at his home in New York City, September 20, from diabetes, aged 65.

Samuel Alonzo Davis, M.D. Harvard Medical School, 1862; a member of the Massachusetts Medical Society; a veteran of the Civil War; died at his home, Winter Hill, Boston, January 3, from pneumonia, aged 73.

Frank Henry Haskins, M.D. Harvard Medical School, 1899; a member of the Massachusetts Medical Society; died at the home of his mother in Springfield, December 30, from carcinoma of the liver, aged 39.

Albini Joseph W. Dufault, M.D. Laval University, Quebec, 1905; a member of the Union Médicale of Fall River, Mass.; died at his home in Fall River, September 23, from multiple infectious arthritis, aged 28.

George Harvey Doane, M.D. College of Physicians and Surgeons, Chicago, 1908; a member of the American Medical Association; died at his home in O'Fallon, Ill., January 6, from pneumonia, aged 27.

Frederick Larkin, M.D. Central Medical College of New York, Syracuse (Hon.); for more than sixty-two years a practitioner; died at his home in Randolph, N. Y., November 21, from paralysis, aged 97.

Edward Emmitt Haworth, M.D. Kentucky School of Medicine, Louisville, 1894; a member of the Indiana State Medical Association; died at his home in Claypool, January 2, from anemia, aged 44.

Benjamin Bently Bacon, M.D. Eclectic Medical Institute, Cincinnati, 1858; for nearly sixty years a practitioner; died at the home of his son in Leavenworth, December 9, from heart disease, aged 85.

John L. Hale (license, thirty years of practice, Kentucky, 1896); of Wickliffe, Ky.; formerly a member of the American Medical Association; died in Cairo, Ill., December 30, from cancer, aged 75.

Alfred M. Critz, M.D. Indiana Medical College, Indianapolis, 1877; a resident of Ballard, Wash., for eighteen years; died in that city, December 19, from cerebral hemorrhage, aged 58.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

FORMUROL

Report of the Council on Pharmacy and Chemistry

Formurol, Citrocoll and Aspirophen were submitted to the Council by the Cellarius Company of San Francisco. The manufacturers having failed to substantiate the claims they make for these products, the Council has voted that the preparations be refused recognition. The Council also authorized the publication of the following report, which deals particularly with one of the preparations—Formurol.

W. A. Puckner, Secretary.

Formurol is the product of the Chemische Fabrik Falkenberg, Falkenberg-Gruenau, near Berlin, Germany. The Cellarius Company, San Francisco, acting as selling agents for the United States, submitted Formurol (along with Aspirophen and Citrocoll, also made by the same firm) to the Council, with the statement that it is "hexamethylentetramin-sodium-citrate," and that it has the following composition: "$C_6H_7O_7Na.C_6H_{12}N_4$."

Zernik,[1] who examined these products, reported that Aspirophen, Citrocoll and Formurol do not have the composition that is claimed for them by the Fabrik Falkenberg. Formurol, he states, is not a definite chemical compound, but a mixture of hexamethylenamin and sodium citrate. The agents were advised of this fact by the Council and were asked to submit evidence to substantiate their claims. No such evidence was submitted.

Since a compound having the composition that is claimed for Formurol is theoretically possible, the Council requested that the product be examined in the Association Laboratory to determine whether it still was the simple mixture reported by Zernik, or whether, perhaps, it now possessed the formula claimed for it. The following report was made by the Association chemists:

> Formurol, as submitted to the Council, was in the form of tablets weighing about 1 gm. each and appeared to be composed of a fine white substance interspersed with some transparent particles. The tablets were readily soluble in water, were odorless and possessed a slightly acid taste. The aqueous solution responded to tests for hexamethylenamin, citrate and sodium. To determine whether hexamethylenamin was present in the free or the combined state, the method of Zernik was employed. This consists in the extraction of Formurol with chloroform, which dissolves out hexamethylenamin, leaving insoluble sodium citrate. As the use of the solvent, chloroform, would seem to preclude decomposition of such a hypothetical compound as "hexamethylenamin-sodium-citrate," the extraction of hexamethylenamin from Formurol may be taken to demonstrate its presence in the free state.
>
> That Formurol is not a compound of hexamethylenamin, but a mixture of hexamethylenamin and sodium citrate, was further indicated by the appearance of the crushed tablets described above. Further, under the low-power microscope the powder was found to be composed of transparent crystals and white opaque particles which appeared to be masses of minute crystals. When treated with chloroform the transparent crystals dissolved, leaving the white masses intact, demonstrating the presence of two distinct substances, one soluble and the other insoluble in chloroform. It having been demonstrated that the residue obtained by evaporation of chloroform could not be weighed as hexamethylenamin, due to enclosed chloroform, the amount of this substance in the residue was determined.
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> The method used has been described in the Report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, and depends on the decomposition of hexamethylenamin by means of sulphuric acid to form ammonium sulphate and formaldehyd. From this solution the ammonia is liberated, distilled and determined[2] by titration and from the ammonia found the amount of hexamethylenamin is calculated. By this method Formurol was found to contain (*a*) 35.42 per cent. and (*b*) 35.32 per cent., or an average of 35.37 per cent. hexamethylenamin. The residue insoluble in chloroform was shown to consist essentially of disodium hydrogen citrate by determining[3] the amount of sodium (Na) contained in Formurol. The percentage of sodium calculated from the amount of sodium sulphate found was (*a*) 11.38 per cent. and (*b*) 11.20 per cent., or an average of 11.29 per cent., equivalent to 62.50 per cent. disodium hydrogen citrate.
>
> As a check on this determination, the amount of material contained in Formurol which is insoluble in chloroform was determined.[4] It was found to be (*a*) 63.23 per cent. and (*b*) 63.49 per cent., making an average of 63.36 per cent., and thus agreeing fairly well with the results obtained when the sodium content was assumed to be disodium hydrogen citrate. From this analysis it appears that Formurol is not a definite compound of hexamethylenamin and sodium citrate, but instead is a mixture of these substances consisting approximately of hexamethylenamin 35.37 per cent. and sodium acid citrate (disodium hydrogen citrate) 63.36 per cent., practically a mixture of 1 part hexamethylenamin and 2 parts sodium acid citrate. These results agree with those reported by Zernik and show that the product now, as then, is not true to claims.

In view of the findings of the laboratory, it is recommended that Formurol be refused recognition. As the exploitation of well-known remedies under false and misleading names is detrimental to the progress of medicine, it is recommended that publication of this report be authorized.

Editorial Note: This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past, many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

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[1] Zernik: Arb. a. d. Pharmazeut. Inst. d. Univ. Berlin, 1907, iv 46.

[2] Determinations were made, following the details of the method described in the report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, with the following results: (*a*) 1.0769 gm. Formurol yielded an amount of ammonia requiring 10.96 c.c. normal sulphuric acid for neutralization, indicating the presence of 0.3815 gm. or 35.42 per cent. hexamethylenamin. (*b*) 1.1178 gm. Formurol required 11.36 c.c. normal sulphuric acid, equivalent to 0.3952 gm. or 35.32 per cent. hexamethylenamin; making an average of 35.37 per cent.

[3] Sodium was estimated by converting to sodium sulphate in the usual way, with the following results: (*a*) 1.0319 gm. Formurol yielded 0.3621 gm. sodium sulphate, equivalent to 11.38 per cent. sodium. (*b*) 0.8783 gm. Formurol yielded 0.3035 gm. sodium sulphate, equivalent to 11.20 per cent. sodium; average, 11.29 per cent., equivalent to 62.50 per cent. disodium citrate ($C_6H_6O_7Na_2+H_2O$).

[4] The matter insoluble in chloroform was determined by weighing Formurol to a tared filter, which had been washed with chloroform and dried at 100 degrees, and percolating with chloroform till the dried filter and contents became constant in weight. By this method (*a*) 1.0769 gm. Formurol yielded 0.6826 gm. or 63.23 per cent. matter insoluble in chloroform; and (*b*) 1.1178 gm. Formurol yielded 0.7079 gm. or 63.49 per cent. insoluble matter; average, 63.36 per cent.

[5] Therap. d. Gegenw., February, 1909.

Correspondence

Niemeyer's Pill

To the Editor:—I have long felt certain that the term "Niemeyer's pill" was being erroneously applied to the well-known pill of calomel, squill and digitalis, but while I have availed myself of frequent opportunities to correct students regarding its use I did not think that the matter was sufficiently important to demand public notice until several months ago I found THE JOURNAL of the American Medical Association, I think in its therapeutic department, making the same error. Then it seemed to me time to speak out.

The true Niemeyer's pill was suggested by Felix von Niemeyer about 1866 and 1867 with a view to combating the pyrexia of pulmonary consumption. The following is the language on page 68 of his little classic brochure entitled "Clinical Lectures on Pulmonary Consumption," translated by the New Sydenham Society in 1870:

> "Among the remedies which are in many cases successful in reducing the increased production of heat and the temperature of the body, although the original disease continues, digitalis and quinin justly enjoy a great reputation.
>
> "We employ them very frequently in phthisical patients, if we have not succeeded in subduing the pyrexia by the means above alluded to; and pills which contain 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and of which one is taken four times a day, are one of the most frequent prescriptions of our clinic."
>
> Niemeyer says further:
>
> "At times, when I am much consulted by phthisical patients, I often prescribe these pills three or four times on the same day. In the hospital we discontinue the pills as soon as a marked decrease of the temperature and of the frequency of the pulse is noticeable, and we return to their use as soon as their effect has again disappeared. In my consulting practice I have repeatedly seen that patients quickly learn to judge by their own experience when it is time to discontinue the pills and when to return to their use."

Not every one has made this mistake. Thus, Osler in the seventh edition of his "Practice," section on syphilis, p. 281 says: "If there is ascites, Addison's pill (as it is often called) of calomel, digitalis and squills will be found very useful. Again in the section on diseases of the valves of the heart by Osler and Gibson, vol. 4, p. 268, of "Modern Medicine," we read: "Powdered digitalis is of great service in combination with squills and mercury, 1 grain of each, in the form of the Addison's or Guy's pill." Dr. A. O. J. Kelly in his new book on the "Practice of Medicine," p. 477, also refers to it as Addison's, Guy's or Niemeyer's pill. It is evident that the pill of calomel, squills and digitalis far antedates the time of Niemeyer.

The author who comes nearest to identifying the Niemeyer pill is Clifford Allbutt, who refers to a pill of powdered digitalis leaves and quinin. Dr. Kelly tells me also that Allbutt refers to it as the Leipsic pill.

Let us not forget, the Niemeyer pill is composed of 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and was prescribed by v. Niemeyer for the fever of pulmonary tuberculosis, and if any name is applied to the pill of calomel, digitalis and squills it should be that of Addison or of Guy.

JAMES TYSON, Philadelphia.

Medical Milk Commissions

To the Editor:—Permit me to congratulate you on the publication of the editorial "Clean Milk Production" (THE JOURNAL, January 7, p. 48).

I have one regret—that the excellent summary of the subject did not mention the American Association of Medical Milk Commissions, what it stands for and the good work it is doing in spreading this gospel of clean milk throughout the country. Largely through the efforts of this organization, the number of component milk commissions has increased in number threefold in three years, and now number more than sixty in widely scattered parts of the United States and Canada.

The work of members of milk commissions and of the American Association is altruistic in its best meaning. The national body needs financial assistance to spread this gospel of clean milk broadcast, to have a competent representative in the field constantly to present the cause before medical associations and assist in the formation of medical milk commissions; for it is the "moral influence of milk commissions that has been a large factor in bringing about an improved general supply."

The Association of Milk Commissions feels that this work should receive the active support of the American Medical Association, and it is hoped that eventually its active cooperation can be secured. In no way can the conservation of the infant population of the country be secured so effectually as by making clean milk a possibility in every community.

HENRY ENOS TULEY, Louisville, Ky.
Chairman of the Council.

Sodium Cacodylate in Syphilis

To the Editor:—Dr. A. T. Caffrey becomes enthusiastic over sodium cacodylate in syphilis (THE JOURNAL, Dec. 24, 1910, p. 2211), because by this drug he has healed (?) a syphilitic lesion of the lip in twenty days, though the patient still possesses evidences of a hard chancre and is still under treatment.

In our cases at Dr. F. Bierhoff's clinic, luetic sores on lip and elsewhere heal very rapidly under the action of the soluble salts of mercury (oxycyanid), rarely consuming a larger period than two weeks, intramuscular injections being used in ascending dosage and patient seen every other day.

It is inconceivable that a patient with such a strong arsenical breath as described by Dr. Caffrey should display no disagreeable symptoms. To my mind, it is a classical symptom of poisoning—it is well to remember that arsenical poisoning is a very insidious process and a persistence of arsenic under the circumstances may lead to unpleasant results. It is respectfully suggested that the healing over of an initial lesion (and this in reality is the only apparent result of the treatment), is no evidence of a cure of the syphilis, and that it might be of scientific interest to give the result of an ophthalmoscopic examination, a test of renal functions, and a Wassermann blood examination, which last might disappoint Dr. Caffrey keenly. In conclusion, I ask: Wherein lie the advantages over the mercurial treatment, as compared by scientific investigation, in view of the apparent dangers of cacodylate of sodium?

L. L. MICHEL, New York City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CENTIGRADE AND FAHRENHEIT SCALES

To the Editor:—In THE JOURNAL, Jan. 7, 1911, p. 81, is an abstract of an article by Japha in which "Rhythmic Compression of the Heart for Apparently Moribund Children" is treated and "temperature of 43.3° C." is given as corresponding to 110° F. This is incorrect, and should read approximately 107.19° F. I feel sure that this temperature is incorrectly reported and I send this protest only from the belief that THE JOURNAL would not wish to report a mistaken observation.

ALBERT N. BLODGETT, Boston.

ANSWER.—We are gratified to see that the columns of THE JOURNAL are scanned so closely for possible mistakes. THE JOURNAL is glad to have its attention called to any mistakes and will promptly correct them.

In this case, however, the figures given were entirely correct and our correspondent has fallen into error. The rule for transposing temperature from Centigrade to Fahrenheit is based on the fact that a degree of Centigrade equals 1.8 degrees Fahrenheit and that the zero point of the Centigrade scale is at 32° F. Hence, if we multiply the figures of the Centigrade by 9/5 and add 32, we obtain the figures on the Fahrenheit scale. In the present example $43.3 \times 9 = 389.7$; $389.7 \div 5 = 77.94$; $77.94 + 32 = 109.94$. A very convenient method for obtaining these figures is to get nine-tenths of the number, multiply the result by 2 and then add the 32. Thus, 43.3 minus 4.33 (one-tenth of the same) equals 38.97. This multiplied by 2 equals 77.94; adding 32 gives 109.94.

ARTICLES ON MEDICINE IN THE PHILIPPINES

To the Editor:—Medical matters in the Philippines are constantly becoming of greater interest to the practitioner in the United States. Doubtless you have published articles on the subject. Can you give me a list of recent ones? H. D.

Answer.—The following articles on the subject have appeared within the last few years:

- Ashburn, P. M., and Craig, Charles F.: Study of Tropical Diseases in the Philippine Islands, The Journal, Feb. 27, 1907, p. 691.
- Dudley, F. W.: Prevalence of Cancer in the Philippine Islands, The Journal, May 23, 1908, p. 1663.
- Dudley, F. W.: Prevalence of Hydrophobia in the Philippine Islands, The Journal, Dec. 19, 1908, p. 2143.
- Heiser, V. G.: Sanitation in the Philippine Islands Since the American Occupation, The Journal, Jan. 9, 1909, p. 97.
- McLaughlin, A.: The Suppression of a Cholera Epidemic in Manila, The Journal, April 10, 1909, p. 1153.
- Musgrave, W. E.: Ten Years of American Sanitation in the Philippine Islands, The Journal, Feb. 6, 1909, p. 442.
- Rochester, A. S.: The Care and Treatment of Opium Smokers in the Philippine Islands, The Journal, Jan. 30, 1909, p. 351.
- Strong, R. P.: Combating Tropical Diseases in the Philippine Islands by Scientific Methods, The Journal, Feb. 13, 1909, p. 524.

TREATMENT OF SOLITARY CASEOUS LYMPH-GLAND

To the Editor:—What is the recognized treatment for a solitary caseous lymph-gland of the anterior cervical region, in a woman with a family history of tuberculosis, but without other signs of the disease? The patient is pregnant. Shelby.

Answer:—Our correspondent does not state the size of the lymph-gland, how long the condition has been present, whether it is active or latent, or whether it is giving rise at present to any trouble. If the condition is latent or inactive it should be let alone for the present. If it is active, the gland should be removed notwithstanding the fact that the patient is pregnant.

AUTOMOBILE DATA WANTED

To the Editor:—Will the readers of The Journal who have had any experience with the Brush runabout, now selling at $450.00, and with the Dayton Airless Clincher Tire, please write me whether or not they give satisfaction. Any one interested, who may want to know the reports from this inquiry, may have same by writing and enclosing stamp. L. C. Oyster, Lumberport, W. Va.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 14, 1911.

Arthur, William H., lieut.-col., granted three months' leave of absence about April 20, 1911.

Fisk, Owen C., lieut., Dec. 31, leave of absence extended ten days.

Birmingham, Henry P., lieut.-col.; Kean, Jefferson R., major; Winter, Francis A., major; appointed members of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination and promotion.

Miller, Albert L., M.R.C., January 9, relieved from Fort Meade, S. D., about February 1, and ordered to his home, and on expiration of leave of absence for one month, to take effect about February 1, will stand relieved from active duty in the Medical Reserve Corps.

Thearle, William H., lieut., ordered to Jefferson Barracks, Mo., for temporary duty.

Van Horn, James B., M.R.C., relieved from further treatment at Army General Hospital, San Francisco, and ordered to the Army General Hospital, Fort Bayard, N. Mex., for observation and treatment.

Lyster, William J. L., major, on expiration of leave is assigned to temporary duty as attending surgeon in Philadelphia until June 1, 1911.

Church, James R., major, sick leave of absence extended twenty days

Crum, Wayne H., lieut., granted twenty days' leave of absence, to terminate at such time as will enable him to report at Fort McKinley, Me., for duty with troops to Philippine Islands.

Scott, H. O., D.S., left Fort Hamilton, N. Y., en route to San Francisco, on one month and ten days' leave, and for annulment of contract.

Winter, Francis A., major, ordered to New York City on business connected with the purchase of medical supplies.

Lyon, William C., M.R.C., resignation accepted by the President to take effect January 14.

Hammond, William G., D.S., contract annulled January 14.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 14, 1911.

Dunbar, A. W., surgeon, detached from the naval dispensary, Washington, D. C., and ordered to continue other duties.

Fitzsimmons, P., medical director, detached from duty as a member of the naval retiring board, navy yard, Washington, D. C., and ordered to continue other duties.

Field, J. G., medical inspector, ordered to the navy yard, Norfolk, Va.

Von Wedeking, L. L., surgeon, detached from command of the naval hospital, Annapolis, Md., and ordered to special duty in connection with the marine recruiting rendezvous, Chicago.

Pickrell, G., medical inspector, ordered to command the naval hospital, Annapolis, Md.

Guest, M. S., surgeon, transferred to the retired list from Jan. 6, 1911.

Strite, C. E., P. A. surgeon, ordered to the Naval Medical School Hospital, Washington, D. C., for observation.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 11, 1911.

White, J. H., surgeon, *granted one month's leave of absence*, without pay, from Jan. 5, 1911.

Irwin, Fairfax, surgeon, granted one month and ten days' leave of absence from Feb. 18, 1911.

Fricks, L. D., P. A. surgeon, granted fourteen days' leave of absence from Dec. 27, 1910.

Rucker, W. C., P. A. surgeon, detailed to join the "Mine Rescuing Car" and proceed to the several mines in West Virginia for special temporary duty. Granted three days' leave of absence en route.

Herring, R. A., asst.-surg., directed to proceed to Stapleton, N. Y., and report to the chairman of board of medical examiners, to determine his fitness for promotion to the grade of passed assistant surgeon.

Coffee, J. H., A. A. surgeon, *granted seven days' leave of absence* from Jan. 15, 1911, under paragraph 210, Service Regulations.

DeForest, C. M., A. A. surgeon, granted thirty days' leave of absence from Jan. 24, 1911, and a further period, without pay, of two months from Feb. 25, 1911.

Moncure, J. A., A. A. surgeon, granted fourteen days' extension of leave of absence from Dec. 17, 1910, on account of sickness.

White, R. C., A. A. surgeon, granted twenty-two days' extension *of leave of absence from Dec. 10, 1910, on account of sickness.*

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Jan. 16, 1911, to conduct a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed-Assistant Surgeon M. K. Gwyn, recorder.

Board of medical officers convened to meet at the Marine Hospital, Port Townsend, Wash., Feb. 6, 1911, to conduct physical examinations of officers of the Revenue-Cutter Service. Detail for the board: Surgeon P. M. Carrington, chairman; Passed-Assistant Surgeon B. H. Earle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Jan. 16, 1911, for the examination of Assistant-Surgeon R. A. Herring, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Hiram W. Austin, chairman; Passed-Assistant Surgeon W. A. Korn; Passed-Assistant Surgeon George L. Collins, recorder.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Third Weekly Meeting

Local Anesthesia—Cocain

Physiologic Actions: Applied locally to mucous surfaces, to skin.

Hypodermically: Strength and dose of solution, indications, dangers.

Infiltration Method: Schleich's solution, combination with epinephrin, Braun's method. Indications, disadvantages.

Spinal Anesthesia: Corning, Bier, Jonnesco. Technic in detail. Indications, dangers and after effects.

Neural Anesthesia: Corning, Oberst, Crile. Technic of nerve-blocking, solutions, advantages, difficulties.

Substitutes for Cocain: Eucain, tropacocain, stovain, novocain, holocain, acoin.

Anesthesia by Freezing: Agents used, indications, disadvantages.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

Kansas: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

Nebraska: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

New York: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Washington July Report

Dr. F. P. Witter, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Seattle, July 5-7, 1910. The number of questions examined in was 11; total number of questions asked, 110; percentage required to pass, not less than 60 in any one subject. The total number of candidates examined was 104, of whom 79 passed, including 4 osteopaths, and 25 failed, including 1 osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Cooper Medical College	(1905)	1
[illegible] a California	(1907)	1
[illegible] ashington, D. C	(1907)	1
[illegible]	(1898)	1
Denver and Gross College of Medicine..(1907)	(1909)	2
Rush Medical College (1897)	(1906)	2
College of Physicians and Surgeons, Chicago (1893) (1900) (1901) (1905)	(1910)	5
Northwestern University Medical School (1888) (1898 (1902) (2, 1907) (3, 1909)	(1910)	9
Chicago College of Medicine and Surgery	(1909)	1
Hahnemann Med. College and Hospital, Chicago	(1910)	1
State University of Iowa, College of Medicine (1901) (1906) (1907)	(1910)	4
State Univ. of Iowa, Coll. of Homeo. Medicine	(1905)	1
Keokuk Medical College	(1897)	1
Hospital College of Medicine, Louisville	(1905)	1
Johns Hopkins University	(1902)	1
Tufts College Medical School (1904)	(1908)	2
Harvard Medical School	(1905)	1
Boston University	(1909)	1
Michigan College of Med. and Surgery (1896)	(1905)	2
Detroit College of Medicine	(1901)	1
Univ. of Mich., Coll. of Med. and Surg. (3, 1908)	(1909)	4
Saginaw Valley Medical College	(1902)	1
Hamline University	(1902)	1
Univ. of Minn., Coll. of Med. and Surg..(1902)	(1909)	2
University of Minn., Homeopathic College	(1897)	1
Marion Sims College of Medicine	(1897)	1
Kansas City Hahnemann Medical College	(1909)	1
Barnes Medical College	(1910)	1
Washington University, St. Louis	(1907)	1
Creighton Medical College	(1907)	1
Columbia University, College of Physicians and Surgeons (1906) (1908)	(1909)	3
New York University Medical College	(1896)	1
Long Island College Hospital	(1897)	1
Medical College of Ohio	(1871)	1
Miami Medical College	(1881)	1
University of Oregon	(1910)	2
Willamette University	(1910)	1
Western Pennsylvania Medical College	(1901)	1
Medico-Chirurgical College, Philadelphia	(1903)	1
Jefferson Medical College (1900) (1908)	(1910)	3
University of Pennsylvania (1903)	(1910)	2
University of Manitoba, Winnipeg	(1897)	1
Trinity Medical College, Canada (1902)	(1903)	2
Western University, London, Ontario	(1910)	1
Owen's College, Manchester, England	(1904)	1

FAILED

College	Year Grad.	Total No. Examined.
Bennett Medical College, Chicago	(1909)	1
Rush Medical College (1899) (1901)	(1903)	3
Northwestern Univ. Woman's Medical School	(1887)	1
Chicago Homeopathic Medical College	(1883)	1
College of Physicians and Surgeons, Chicago	(1910)	1
Indiana Medical College	(1898)	1
State University of Iowa, College of Medicine	(1884)	1
Kansas Medical College	(1896)	1
Kentucky School of Medicine	(1904)	1
Medical School of Maine	(1910)	1
College of Physicians and Surgeons, Baltimore	(1893)	1
Baltimore Medical College	(1907)	1
Saginaw Valley Medical College	(1899)	1
Barnes Medical College	(1907)	1
Missouri Medical College	(1883)	1
St. Louis University	(1904)	1
Jefferson Medical College	(1895)	1
University of Pennsylvania	(1907)	1
University of Nashville	(1902)	1
College of Physicians and Surgeons, Dallas	(1908)	1
Marquette University, Milwaukee (1909)	(1910)	2

Missouri September Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Jefferson City, September 20-22, 1910. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 58, of whom 38 passed and 20 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	84
Chicago College of Medicine and Surgery	(1910)	77.8
Northwestern University Medical School	(1909)	81.2
Rush Medical College	(1910)	82.4
Drake University	(1910)	77.9
University of Kansas	(1910)	77.2, 80.4
Kansas Medical College	(1908)	81.2
Louisville Medical College	(1903)	75.3
University of Louisville (1902) 75; (1910) 75, 80.6, 82.4, 84.1, 84.2, 86.9.		
Johns Hopkins Uuniversity	(1910)	84.5, 88.2
Ensworth Medical College, St. Joseph. (1908) 75.3;	(1910)	75
St. Louis College of Physicians and Surgeons (1899) 75; (1908) 75, 78.3; (1910) 75.2, 75.8, 76.9, 78.4, 83.5, 85.1, 86.2.		
University Medical College, Kansas City	(1910)	75
Kansas City Hahnemann Medical College	(1910)	75
Barnes Medical College	(1910)	75
St. Louis University	(1910)	80.5
Columbia University, Coll. of Phys. and Surg.	(1907)	89.5
Starling Medical College	(1892)	81.2
Vanderbilt University	(1910)	78.2
University of Texas	(1910)	89.4

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1910)	57.2, 65.1
Ensworth Medical College (1909) 37.5;	(1910)	63, 66.8
St. Louis College of Physicians and Surgeons (1906) 63.8; (1909) 66.8, 67.1; (1910) 66.7, 68.8.		
Barnes Medical College (1907) 49.3; (1910) 66.2, 68.4, 69.1		
Homeopathic Medical College of Missouri	(1909)	68.9
American Medical College, St. Louis. (1909) 63.3;	(1910)	65.2
University Medical College, Kansas City	(1910)	60, 62.8
Meharry Medical College	(1910)	65.3

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, October 11-13, 1910. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and not less than 50 in any one subject. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
American Medical Missionary College	(1910)	83.4
Tufts College Medical School	(1907)	84.6
Harvard Medical School	(1904)	85
Detroit College of Medicine	(1910)	75.5, 77.2, 77.9
University of Michigan, Dept. of Med. and Surg. (1893) 87.8; (1910) 77, 85.7.		
Detroit Homeopathic College	(1910)	75, 78.2
University of Paris	(1899)	88.1

FAILED

College	Year Grad.	Per Cent.
Detroit Homeopathic College	(1908)	43.4

Montana October Report

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written and oral examination held at Helena, October 4-6, 1910. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 52, of whom 36 passed and 16 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	78.9
Rush Medical College (1897) 78.4; (1904) 82.9; (1907) 79; (1909) 77.5; (1910) 84.7.		
Hahnemann Medical College and Hospital, Chicago (1883) 78.6; (1895) 75.5.		
[illegible] cal School	(1910)	75.1, 77.3
[illegible] geons, Chicago	(1909)	75.2, 80
[illegible]	(1906)	75
[illegible] College	(1896)	75.1
[illegible]	(1909)	75.1
[illegible]	(1910)	79.3
College of Physicians and Surgeons, Baltimore	(1910)	77.1
Johns Hopkins University	(1910)	76.7
Baltimore Medical College	(1906)	75.4

University of Michigan, Dept. of Med. and Surg.	(1903) 76.9; (1910)	76.4, 79.8.
University of Minnesota, College of Med. and Surg.	(1902) 75; (1904)	77.4.
Hamline University	(1902)	75.4
Creighton Medical College	(1910)	75.8, 78.9
Kansas City Hahnemann Medical College	(1909) 75.2; (1910)	79.3.
Cornell University Medical College	(1900)	75.1
Albany Medical College	(1906)	75.7
Jefferson Medical College	(1910)	76.2
Memphis Hospital Medical College	(1903)	75
Vanderbilt University	(1908)	75
University of Toronto, Ontario	(1908)	75.2
University of Christiania, Norway	(1906)	76.7

FAILED

Rush Medical College	(1904)	71.3
Northwestern University Medical School	(1908)	62.4, 65.6
Indiana Medical College	(1896)	51
University of Iowa, College of Medicine	(1910)	65.3
Keokuk Medical College	(1907)	60.4
College of Physicians and Surgeons, Keokuk	(1907)	49.3
Hamline University	(1908)	70.7
University Medical College, Kansas City	(1881)	42.3
Barnes Medical College	(1910)	71
Ensworth Medical College	(1905)	51
Marion-Sims Beaumont College of Medicine	(1903)	50.8
Memphis Hospital Medical College	(1910)	71.1
University of the South	(1905)	64.9
University of Nashville	(1906)	63.2
College of Physicians and Surgeons, Dallas	(1908)	68.1

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written and oral examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 24, of whom 16 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1910)	80.1, 82.1, 83.4
Louisville and Hospital Medical College	(1908)	83.9
Baltimore Medical College	(1909) 81.2; (1910)	77.8, 79.2
Medical School of Maine	(1903)	78.5
Johns Hopkins University	(1900)	90.6
Dartmouth Medical College	(1910)	88.4
University and Bellevue Hospital Med. College	(1910)	85.7
University of Pennsylvania	(1910)	89.9
Jefferson Medical College	(1903)	77.2
University of Vermont	(1893)	75.5
University of Virginia	(1908)	75.4
Queen's University, Kingston, Ontario	(1908)	80.3

FAILED

Maryland Medical College	(1910)	73.4
Baltimore Medical College	(1907) 12.2; (1909)	74.2
University of Maryland	(1906) 74.3; (1908)	63.5
College of Physicians and Surgeons, Baltimore	(1910)	72.8
College of Physicians and Surgeons, Boston	(1910)	61.2
University of the South	(1904)	62.8

West Virginia November Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Morgantown, Nov 14-16, 1910. The number of subjects examined in was 9; the total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 29, of whom 24 passed, including 1 osteopath, and 5 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1904) 82; (1910)	83
Georgetown University	(1910)	86
George Washington University	(1908)	92
College of Physicians and Surgeons, Chicago	(1910)	80
University of Louisville	(1910)	80, 81, 82, 83, 85.
Louisville and Hospital Medical College	(1908)	89
Woman's Medical College of Baltimore	(1910)	88
University of Maryland	(1910)	83, 86
Eclectic Medical College, Cincinnati	(1910)	80
University of Pittsburg	(1908) 92; (1910)	87
Women's Medical College of Pennsylvania	(1906)	85
Western Pennsylvania Medical College *	(1907)	82
University of Pennsylvania	(1909) 90; (1910)	91
Meharry Medical College	(1910)	81
University of the South	(1908)	86

FAILED

University of Louisville	(1909)	65
Maryland Medical College	(1909)	76
Baltimore University	(1900)	63
Eclectic Medical College, Cincinnati	(1910)	76, 77

* Name changed to University of Pittsburg, Medical Department, in 1908

Connecticut Homeopathic November Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Boston University	(1904) 90; (1906)	80, 88
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	84

Book Notices

NEPHROCOLOPTOSIS. A Description of the Nephrocolic Ligament and Its Action in the Causation of Nephroptosis, with the Technic of the Operation of Nephrocolopexy, in Which the Nephrocolic Ligament is Utilized to Immobilize Both Kidney and Bowel. By H. W. Longyear, M.D., Professor of Gynecology and Abdominal Surgery, Detroit Post-Graduate Medical School. Cloth. Price, $4. Pp. 251, with 86 Illustrations. St. Louis: C. V. Mosby Company, 1910.

The author of this work was dominated by a central idea. This idea is that movable kidney is produced by the sagging of the colon drawing on and pulling out of place the kidney, the weight of the colon being transmitted to the kidney through bands of connective tissue which the author calls the nephrocolic ligament. In order to explain the fact that the right kidney alone is affected in the large majority of the cases, the author assumes that the colon, in attempting to move its contents up the ascending colon, pulls down on the right kidney and that no such downward pull on the left kidney is present while the contents are moving down the descending colon. A glance at Figures 4 and 6, showing a long ascending limb of the transverse colon passing up to the splenic flexure, would be sufficient to shake one's belief in the theory, even if there were not many other reasons for hesitating to accept it. Concerning the nephrocolic ligament, on page 29 we find the following: "The last two observers—surgeons of long experience [Reed and Zuckerkandl]—are emphatic in their opinion regarding the strength of the tissue. Both believed its volume and strength to be of inflammatory origin and thus abnormal and adventitious. Billington's observation that this condition is peculiar to cases of nephroptosis coincided with that of the author and seems to cover a valuable point in the anatomic experience of some others who, failing to find the ligament as described, base their opinions on the examination of subjects which have had no displacement of the kidney."

If these bundles of connective tissue or nephrocolic ligament are perceptibly present only in cases of movable kidney and colon it is infinitely more probable that they are the result and not the cause of the abnormal mobility. The author admits on page 37 that "whether this increase of tissue over the average is cause or effect is not known." Yet on page 50 he states that the ligament is the most important factor in the cause of movable kidney as, "by it the prolapsing colon pulls the kidney out of place," There is one more important fact in connection with movable kidney which the author's theory does not explain, and that is that movable kidney is extremely common in women and extremely uncommon in men.

The contents of the colon must be moved up the ascending colon in men just the same as in women, and there must be the same downward pull, yet it does not pull the kidney down in men, so there must be some other factor in the etiology of movable kidney which the author's theory fails to explain. However, that the author appreciates this fact is well shown in his description of the prophylactic treatment which contains much good sense on how to develop strong, healthy bodies in young girls. The key-note is struck on page 81. "Breathing exercises should be conducted in ways to develop the intercostal muscles and diaphragm and cause broadening and increase of capacity of the lower part of the thoracic cavity." (It should read upper abdominal cavity, as that is where the organs are located.) This is not only good prophylactic treatment but good in well-developed cases.

The author is too enthusiastic in regard to the benefits of operative treatment. In the great majority of the cases movable kidney produces no special symptoms and therefore its fixation by operation in those cases relieves none.

The work is a very readable one, and, aside from the fact that the author takes a rather narrow view of the cause of movable kidney, contains many good points.

Handbuch der Neurologie. Herausgegeben von M. Lewandowsky. Vol. I, Allgemeine Neurologie. Paper. Parts I and II. Price, 68 marks. Pp. 1006, with 322 illustrations and 12 plates. Berlin: Julius Springer, 1910.

This work, dealing with the general principles of neurology, constitutes the first volume of a handbook which, when completed, is to embrace the entire practice of neurology. In its preparation forty-six authors, each an authority on the subject assigned him, have contributed to make this the most exhaustive treatise on practical neurology to be found in any language. The value of each article is greatly enhanced by the good bibliography which accompanies it—a feature not found in any other neurologic text-book. The subject-matter is treated of in five chapters and many subchapters.

Chapter 1, by Bielschowsky, comprises about 90 pages, with 6 colored plates. The histology and histopathology receive masterly treatment by the well-known author of the new fibrilstain, by means of which greater insight has been afforded into the histology of the nervous system. The writer, though a follower of Apathy and Bethe, both of whom have labored hard to overthrow the neuron theory, discusses the neuron doctrine with no rancor and suggests a modification according to the latest research.

Chapter 2, dealing with the anatomy of the nervous system and really a text-book in itself, is up to date and contains in 218 pages and a splendid bibliography the essentials of the entire subject.

Chapter 3, on the experimental physiology of the nervous system, was written in individual articles by R. du Bois-Reymond, Otto Kalischer, M. Lewandowsky and Ernst Weber. The last-named author contributed the article on "Physiologic Accompaniments of Psychic Processes" in 22 pages, and one regrets that not more space was devoted to this interesting and entirely new topic; but what there is of it is excellent. The entire chapter is one of the best in the book.

Chapter 4, the longest, is devoted to general pathology, symptomatology and diagnosis of nervous diseases. Among the many splendid articles the one on the nervous disorders of the cochlea and vestibule by Robert Bárány of Vienna, must be particularly mentioned. In the short space of 40 pages he gives a summary of pioneer work done in this new field, largely his own, which must attract the attention of neurologists and otologists.

Chapter 5, on the general therapy, covers almost everything of importance pertaining to the treatment of this class of disorders. The surgical, orthopedic, electric and mechanical methods are fully discussed by such experts as W. Braun, Oscar Vulpius, and Toby Cohn. The subchapter on the treatment by drugs is well handled by S. Kalischer. Though the article on psychotherapy by Fritz Mohr is fairly complete, yet in our opinion disproportionate space is given to hypnotism—more than one-half—when this space could have been profitably devoted to a fuller discussion of modern methods of psychic treatment.

Manual of Human Embryology. By Many Writers. Edited by Frank Keibel, Professor in the University at Freiburg i. Br., and Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University, Baltimore. In Two Volumes. Volume I. Cloth. Price, $7.50. Pp. 548, with 423 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

As appears from the title, a number of German and American embryologists have collaborated in the production of this important work, which appears simultaneously in Germany and in America. The chapters originally written in German have been translated by Professor McMurrich and the chapters originally written in English have been translated by Professor Keibel. The work is in two imperial octavo volumes. The text is handsomely illustrated.

The chapters in Volume 1 are as follows: F. Keibel: "Introduction:" "The Germ Cells"; "Fertilization"; "Segmentation"; "Young Human Ova and Embryos up to the Formation of the Primitive Segment"; "The Formation of the Germinal Vesicle and the Problem of the Gastrula"; "Summary of the Development of the Human Embryo and the Differentiation of its External Form."

F. P. Mall: "Determination of the Age of Human Embryos and Fetuses"; "The Pathology of the Human Ovum."

Otto Grosser: "Development of the Egg-Membranes and the Placenta"; "Menstruation."

Felix Pinkus: "Developmental History of the Skin."

Charles R. Bardeen: "Developmental History of the Skeleton, Including the Histogenesis of the Supporting Substances of the Connective Tissue Group."

Warren H. Lewis: "Developmental History of the Muscular System, Including the Histogenesis of the Smooth and Cross-striped Muscle Fibers."

F. P. Mall: "Celom and Diaphragm."

The existing text-books of human embryology, many of them of high excellence, are based, as is well known, for the most part, on other than human material, having been written from the point of view of comparative embryology. In the present work, however, the account of the development of the human body is based mainly on human material. Whenever comparative embryology and anatomy are drawn on in order to render intelligible special developmental processes in man, the considerations are printed in smaller type so that a clear distinction between facts and deductions is apparent. In the introduction Professor Keibel traces the development of human embryology up to the present time when the materials needed for a full exposition are practically available, with the exception of the earlier stages in the development of the germ layers and the first steps of placentation. The authors are all masters of the subject of which they write and the result is a fine example of literary cooperation, the necessary similarity of treatment being secured by the common purpose and by editorial supervision. Greater uniformity in the bibliographic references at the end of many chapters is desirable. This is an authoritative work of great value and of special interest to physicians because it deals with the development of the human body itself.

A Text-Book of General Bacteriology. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Second Edition. Cloth. Price, $3 net. Pp 594, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1910.

In our review of the first edition of this work we said: "It is destined to occupy a large field of great usefulness because it meets the needs, not only of the medical student, but also of the general scientific student and reader who is interested in the relations of microbes to disease and in their growing importance to agriculture, to sanitation, and to many industries." That our prophecy has been already fulfilled is evidenced by the appearance of this second edition in such a short space of time.

The subject-matter has been brought fully up to date by inclusion of the most important features of the research of the last few years. While bacteriology, in the narrower sense, must be regarded as an all-important branch of medical science, yet one must not forget that this science has done much for the various industries, in many cases having almost created new industrial conditions. It is, therefore, especially refreshing to find in this work so much more stress laid on the medical aspects than is usually the case in such works; and this, too, without slighting the many other fields in which bacteriology is of great importance.

The subject-matter of this volume leaves little to be desired, either as to content or as to arrangement. The facts, which have been established by many years of earnest research, are marshalled in such an array that even the most casual reader cannot fail to realize the great importance of this branch of science. The style is clear, concise, and, especially, scholarly—characteristics too often sacrificed by the scientific writer on the altar of abstruse statement. The illustrations are numerous and excellent. We heartily commend this work to those who wish to become en rapport with the various phases of general bacteriology without being compelled to go over the enormous mass of detail, which is, necessarily, a part of the equipment of the specialist in this great field.

Euthenics. The Science of Controllable Environment. A Plea for Better Living Conditions as a First Step Toward Higher Human Efficiency. By Ellen H. Richards, author of Cost of Living Series, etc. Cloth. Price, $1 net. Pp. 162. Boston: Whitcomb & Barrows, 1910.

The title of this book explains its motive and defines the new word it introduces. It deals with race improvement through environment, while eugenics, the corresponding term which suggested the present one, deals with race improvement through heredity. Euthenics, therefore, the author says, precedes eugenics, developing better men now and thus inevitably creating better men in the future. While eugenics has to await investigation and see its results in the future, euthenics has present opportunities. The author might have added that eugenics deals with only one form of prophylaxis or evil and is as yet largely tentative in its methods and recommendations, while the proper use of good environment is a means always at hand and corrective as well as preventive. The name is the most original part of the work, which, however, gives a large amount of wholesome advice on sanitation, education, and the relations of science and education to human welfare. There are some omissions: the author seems to steer clear of the ethical side of education; the school, she says, "is not the best place to teach ethics." This may be so, but it is a good place nevertheless, and for some pupils the only one. There is much good counsel given about housing, diet, nutrition, etc., but the abuses of drink, drug habits, etc., which are among the most fruitful causes of human degeneracy, receive hardly any mention. Probably the author thought these matters had received sufficient emphasis elsewhere, but they, as well as some other social problems, are certainly important enough to be considered or at least mentioned under the general head of euthenics, as defined.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., Assistant Professor of Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University, New York. Fourth Edition. Cloth. Price, $5.50 net. Pp. 908, with 601 illustrations. Philadelphia: Lea & Febiger, 1910.

This edition is a half larger and contains a third more illustrations than the first edition, issued only nine years ago. Comparison of this with the earlier editions shows, in text, bibliography, and pictures, thorough assimilative revision and supplementation. The regional plan (with some general chapters), the conservative orthopedic scope, the inclusion of statistics, the annotation by exact references, the consideration of treatment chiefly by local means—operation, apparatus, and posture and exercise—and the representative rather than the personal attitude are retained. The book, therefore, continues to be peculiarly valuable, and this edition makes it again standard.

Psyche. A Concise and Easily Comprehensible Treatise on the Elements of Psychiatry and Psychology. For Students of Medicine and Law. By Dr. Max Talmey. Cloth. Price, $2.50. Pp. 282. New York: Medico-Legal Publishing Company, 1910.

Despite the fanciful title, this book contains much of value to the medical student and the general practitioner. The introductory chapter on the psychology of physiology of the mental functions is well written and sufficiently exhaustive for the medical student. The succeeding three chapters are too meager in content and the last chapter, on special pathology of insanity, the most important for the medical reader, is entirely inadequate. There can be no doubt that the author's expectations will be fulfilled with reference to the value of his treatise to the layman and to the attorney.

Normal Histology, with Special Reference to the Structure of the Human Body. By George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania. Eighth Edition. Cloth. Price, $3.50. Pp. 418, with 438 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

A new edition of this text-book has been prepared on the lines indicated in the original preface. It is intended to be used at the beginning of the medical curriculum, and therefore sufficient information on gross anatomy is included to enable the student to grasp the subject. The book admirably fulfils its purpose. The text is well illustrated, a considerable number of colored pictures being introduced. The present edition is well fitted to sustain the reputation which previous ones have achieved.

The Family Health. By Myer Solis-Cohen, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Price, $1. Pp. 267. Philadelphia: The Penn Publishing Co., 1910.

Cohen covers the field of household medicine, including housing, water, heating, bathing, clothing, exercise, eating, stimulants, childhood, care of sick, accidents, etc. His style is terse and dogmatic, yet not objectionally so. It enables him to cover a great deal of ground and to avoid confusing the reader. Statements that deserve criticism are few and these are not important, as, for instance, "Stoves do not assist at all in ventilation." The book may be recommended as a sensible guide to health and right living.

Hypnotism and Suggestion in Daily Life, Education and Medical Practice. By Bernard Hollander, M.D. Cloth. Price, $1.75. Pp. 295. New York: G. P. Putman's Sons, 1910.

The book will be interesting reading both to the physician and to the layman. It is an orderly, calm discussion of the subject, but adds nothing new of scientific value. There is no adequate consideration of the questions raised by the school represented by Freud and Jung; these questions are of the greatest importance where suggestion in any way enters into the problem.

Medicolegal

Validity and Construction of Provision in Medical Practice Act for Licensing Itinerant Vendors of Nostrums—Powers of State Board of Health—Advertising Matter Around Bottles as Evidence

The Supreme Court of Illinois, in People for use State Board of Health vs. Wilson, interprets and holds constitutional section 8 of the medical practice act of 1899, and holds that said section was not repealed by the pharmacy act of 1901. Said section 8 provides: "That any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, who shall, by writing or printing, or by any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license of one hundred dollars ($100) per month into the treasury of the board, to be collected by the board in the name of the People of the State of Illinois, for the use of said board. And it shall be lawful for the State Board of Health to issue such license on application made to said board * * * but said board may, for sufficient cause, refuse said license. * * * "

It was contended that the section was unconstitutional for the reason that it delegated legislative and judicial powers to the State Board of Health by giving it the right to refuse a license for sufficient cause without laying down any rule for its guidance. And the court says that it is the province of the legislature, alone, to enact law, and that power cannot be delegated to any other body. A law must be complete in all its terms and conditions when it leaves the legislature, so that every one may know, by reading it, what his rights are and how it will operate when put into execution. But this section is complete in all its terms, and it does not confer on the State Board of Health any power to legislate or to make any law. The only powers delegated to the board pertain to the execution of the law. Had this section given the board arbitrary power, in its discretion, to refuse to issue a license in any case it would then be open to the objection urged. As it stands, this section merely confers on the board, by express terms, that power and authority which it would have possessed had the clause complained of been entirely omitted.

This statute is designed to protect the public health and is a proper exercise of the police power of the state. The practice of medicine, which includes the itinerant vending of drugs and nostrums, is subject to legislative regulation and control. Had the clause, "but said board may, for sufficient cause, refuse said license," been omitted from this section of the act, the board would have possessed a discretion, which it might exercise to safeguard the public health, in granting or refusing a license. By the insertion of this clause the board is given no greater power. In the absence of either express restriction or authority the board would have been vested with a reasonable discretion, which it might exercise, when necessary, to safeguard the public health. If the board would possess such power without express authority it certainly cannot be said that the granting of that power in express terms renders the act void. Should the board abuse the discretion thus vested in it the party aggrieved has his remedy. If such discretionary power is exercised with manifest injustice the courts are not precluded from commanding its due exercise. They will interfere where it is clearly shown that the discretion is abused. Such abuse of discretion will be controlled by mandamus.

Under this act the State Board of Health is not vested with an arbitrary discretion, but on the contrary, is only authorized to refuse a license for sufficient cause. Should the board exercise this discretion unreasonably or unfairly its action would be subject to review by the courts. The act is not subject to the objection that it confers legislative powers on the State Board of Health.

Nor does the court agree with the contention that, even though this act be valid, section 8 was repealed, by implication, by the pharmacy act of 1901, so far as it applies to the itinerant vending of patent or proprietary medicines. The drug or nostrum sold in this case ("Porter's Pain King") was a proprietary preparation and bore a trade-mark. It was sold by the defendant in the original and unbroken package, and it was not claimed that it contained cocain or any other of the interdicted substances enumerated in the pharmacy act. The second proviso of the first section of the pharmacy act exempts from its provisions the sale of patent or proprietary preparations which do not contain cocain and other enumerated substances, and, so far as that act is concerned, leaves those preparations free to be sold by any one when sold in original and unbroken packages. The pharmacy act is not in reference to the same subject-matter as section 8 of the medical practice act. The pharmacy act merely provides that one who sells certain patent or proprietary preparations need not be a pharmacist, and that the provisions of that act do not apply to the sales of such preparations. It contains nothing which in any way modifies or repeals the provisions of the medical practice act regulating the vending of drugs and nostrums, whether such drugs and nostrums be patent, proprietary or other preparations.

It was urged, however, that, as by the pharmacy act the legislature removed all restrictions from the sale of certain patent or proprietary preparations, that act must be held to operate to repeal said section 8 in order to prevent unjust discrimination between vendors of the same patent or proprietary preparations, and it was insisted that it cannot be made unlawful, on the ground of regulating the practice of medicine, for a citizen to sell medicine from a wagon or by traveling from house to house when the same medicine can be lawfully sold by the proprietor of a grocery or drug store. This argument was based on the assumption that itinerant vendors of patent and proprietary preparations fall within the same class as vendors of the same preparations who have a fixed and permanent place of business. This assumption is without foundation. A merchant with a permanent place of business deals, as a rule, with his regular customers and sells wares to such as come to buy. He is not a stranger in the community, and his character, reliability and reputation are known. He has a business reputation to maintain and has a fixed abiding place at which he may be found. An itinerant vendor, on the other hand, is not bound by any of the rules which govern the local merchant. He may be an entire stranger to every member of the communities in which he plies his trade. He has no business reputation to sustain. He is bound by no restraint in the representations he may make as to the particular drug or nostrum he offers for sale. He is here to-day and to-morrow is gone, perhaps never to be heard of again. The local dealer and the itinerant vendor of patent medicines are of separate and distinct classes. To regulate the practice of medicine is clearly within the police power of the state, and to discriminate between peddlers or itinerant vendors of medicinal preparations and local dealers in the same preparations is not an abuse of that power. The pharmacy act in nowise repeals any of the provisions of the medical practice act.

It was finally contended by the defendant that there was no proof that he was an itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of disease or injury, or that he did, by writing or printing or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application. The evidence disclosed that the preparation sold by him was contained in bottles. Around each bottle was wrapped a printed circular, and bottle and circular were inclosed in a pasteboard box. The circular or pamphlet gave specific directions for external and internal use in the treatment of almost every ailment known to science with which man, beast or fowl may be afflicted, representing that "Porter's Pain King" was the best known remedy for all such ailments and guaranteeing satisfaction. The pamphlet also contained copies of a number of testimonials by various persons, in which wonderful cures of various ailments were claimed to have been effected by the use of the preparation. This pamphlet was delivered, with the preparation, to the purchaser. Such professions, although made only to those who purchased the nostrum, come within the clear meaning and intent of the statute. On this question the evidence on the part of the People made out a case against the defendant as an itinerant vendor of a nostrum, in violation of the statute.

Society Proceedings

COMING MEETINGS

American Medical Association. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Assn. of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

(Continued from page 67)

Primary Sarcoma of the Appendix

Dr. Everett O. Jones, Seattle, Wash.: Primary sarcoma of the appendix is an extremely rare condition. An accurate diagnosis before operation appears to be impossible. In every case the symptoms are those of some type of appendicitis. Pathologically the round-cell sarcoma predominates; next to this, the spindle-cell type. Inflammatory changes, either chronic or acute, very frequently accompany the growth. The immediate prognosis and prospect of freedom from recurrence are very good. The fact that primary sarcoma of the appendix may arise in an inflammatory process forms a very strong additional argument for the removal of all appendices which show evidences of inflammation.

DISCUSSION

Dr. A. E. Hertzler: I have no hesitation in referring to this case as one of desmoid of the appendix, because I do not know what a desmoid is, and I do not know the nature of the appendix removed in this particular case. It is common to have microscopic pictures in these chronic intestinal inflammations which look very much like sarcoma; hence the greatest care possible is necessary to make the differentiation.

Dr. S. C. Beebe, David City, Neb.: In the department of pathology of St. Mary's Hospital, Rochester, Minn., of 5,000 appendices removed, there were only twenty-two cases of carcinoma, and not a single case of primary sarcoma.

Dr. William C. McCarty, Rochester, Minn.: Among 10,000 appendices removed in Rochester, I have not seen one case of sarcoma. In the first 5,000 cases examined, there were twenty-two cases of carcinoma. Two of these I had previously diagnosed as endothelioma, which shows that the differential diagnosis between endothelioma and sarcoma is a difficult one. These were all very early cases, and in only one out of seventeen was the serosa involved.

Dr. Donald Macrae, Council Bluffs, Ia.: I have had eight or ten cases which from macroscopic appearances and the sensation imparted to my fingers appeared to be sarcoma. Unfortunately in the cases I have had, the disease was not entirely confined to the appendix, but involved the cecum, and there were adhesions which tore away like frozen meat, and the mass had a sarcomatous feel.

Dr. Arnold Schwyzer, St. Paul, Minn.: A few years ago, while on a visit to Switzerland, a patient presented himself with a large tumor of the diaphysis of the femur. Professor Kocher was to operate on this patient, believing the tumor was malignant. Sections were taken from it, and examined by Professor Langhans, who made the positive report that the tumor was a round-cell sarcoma. In the meantime, while waiting for the report, Kocher observed the tumor and found some grayish little dots here and there which appeared to him to be deteriorated tissue, and came to the conclusion that it was a case of infectious granuloma. He acted accordingly, left the femur, and saved the patient's leg. No recurrence took place. It is difficult to make a differentiation between infectious granuloma and sarcoma.

Dr. Emerson F. Root, Salt Lake City: About seven years ago I had a case of what I thought was primary sarcoma of the appendix. The patient had had a chronic appendicitis for more than a year. The appendix was found to be 5 or 6 inches long, and 1 inch or more in diameter, with its lumen almost occluded. It was rather hard, and very loosely attached. The cecum was not involved to any great extent. The appendix was removed together with a small portion of the head of the cecum. The wound healed by primary intention. Two or three months later the patient died. In this case the microscopic diagnosis was made of round-cell sarcoma of the appendix.

Dr. William Jepson, Sioux City, Ia.: I am averse to coining new terms that do not express anything. The term desmoid tumor arises from the fact that prior to our histologic conception of what these tumors were like, they were classed as having developed from band-like masses found in the rectus muscle or in the transverse fascia. The term desmoid means band-like. Is there any reason why we should adhere to such a term when these tumors are strictly fibromas?

A New Principle in the Action of Antiseptics

Dr. M. G. Seelig, and **Dr. C. W. Gould**, St. Louis: Effectiveness in the action of a germicide is dependent on the inherent power of destroying germ life, and the power of penetrating tissues, blood-clot or exudate, in order to reach the bacteria.

Germicidal drugs such as mercuric chlorid, phenol, cresol and compound solution of cresol, in watery solution of various strengths, have *no* apparent effect on organisms that are separated from the germicide by a thin layer of celloidin, an excellent osmotic membrane. Iodin in watery solution is an exception. It osmoses through the celloidin and destroys the organisms. With animal membranes, excepting a 3 per cent. watery solution of phenol, the same results were secured as with celloidin membranes. Alcohol, above 60 per cent. strength, penetrated the celloidin membranes with a degree of rapidity and effectiveness proportionate to its strength. Ninety-five per cent. alcohol kills the organisms in from three to ten minutes. Eighty per cent. in about an hour and a half; 70 per cent. in about seven hours, whereas 50 per cent. did not kill in twenty-four hours. Ninety-eight per cent. was not perceptibly more efficacious than 95 per cent. The addition of bichlorid or phenol did not increase the osmotic power, or intensify the germicidal action of alcohol. The addition of iodin to the alcohol made a solution of heightened osmotic power and increased the germicidal power. The fatty constituents of the tissues, the skin for example, render them better osmotic membranes for alcohol and tincture of iodin, for the reason that alcohol is soluble in these fats. This phenomenon underlies the fact that thorough washing of the skin interferes somewhat with the germicidal effect of the subsequent application of alcohol. The generally accepted explanation that washing the skin is a disadvantage because it softens and swells the epidermis is incorrect.

Primary Suture of Subparietal Rupture of the Kidney

Dr. F. Gregory Connell, Oshkosh, Wis.: Owing to the rapid recent increase in the number of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe. Shock, injury to other organs and external evidence of trauma are frequently absent. History of an abdominal contusion, followed by rigidity and hematuria, is sufficient to lead to exposure of the organ. Slight lesions, and complete rupture of the kidney cannot be differentiated by clinical signs or symptoms. Proof of the absence of serious rupture is called for before instituting the so-called expectant treatment. Nephrectomy should be reserved for very extensive disintegration of the organ. Conservative treatment, preferably by suture, is indicated in the majority of cases.

DISCUSSION

Dr. William J. Frick, Kansas City, Mo.: Heavy falls or blows striking on or about the lumbar region should always be regarded as serious. The appearance of hematuria following such injury should be sufficient evidence on which to make a diagnosis of rupture of the kidney, although the absence of hematuria following such injuries is not always absolute proof that the kidney has not been injured. In one case of subparietal rupture of the kidney, hematuria was very slight, although the damage to the kidney was apparently beyond repair. The patient did not live very long. The wound about the kidney was simply packed. In a case of gunshot wound of the kidney there was not a trace of blood in the urine, macroscopically at least, although the perirenal space was filled with blood. When a diagnosis of rupture of the kidney is made, the kidney should be exposed by a lumbar incision, especially if it be an uncomplicated rupture of the kidney, as it is the only means we have of determining the extent of damage done to the kidney. We cannot depend on the amount of hematuria or any other sign. Knowing the ability of kidney tissue to repair itself, we should attempt conservative surgery in these cases. Nephrectomy should not be done unless the injury to the kidney parenchyma is so extensive as to make it impossible to save enough of it to be of functional value, and unless the injury to the renal vessels is so great as to interfere seriously with the organ's nutrition.

Dr. George N. Kreider, Springfield, Ill.: By means of the Roentgen ray we can definitely outline the kidney, differentiating the pelvis from the substance of the kidney. Another valuable point is to give the patient methylene blue, which would cause staining of the tissues about the injured kidney.

Dr. B. B. Davis, Omaha, Neb.: A great many nephrectomies have been done unnecessarily. We are beginning to realize the wonderful reparative power the kidney possesses. In one case I removed about one-third of the kidney, putting in a mattress suture below, with recovery of the patient. I believe that in many cases the suture is very much to be preferred to gauze drainage or gauze used to control hemorrhage.

Dr. F. A. Dunsmoor, Minneapolis: It is not the mere escape of blood which causes death in these cases, but it is the mixture of urine with the blood and its absorption into the tissues which causes death, particularly in these complicated cases in which the abdominal cavity is contaminated.

Dr. Arnold Schwyzer, St. Paul: As to the diagnosis, blood in the urine may be very scant. The first urine should be examined not only by the eye, but microscopically.

Dr. A. W. Abbott, Minneapolis: I wish to speak of some experiments made by a Minneapolis physician for the purpose of determining the ultimate results of injury to the kidney. In the first place, where the kidney has been injured and the capsule only sewed together, if there was much hemorrhage left in the kidney, it was followed by inflammatory trouble usually, and then by a scar, and a large part of the kidney was rendered useless. The same results followed packing. The best results were obtained by a suture which passed through the kidney directly at about the outer limits of the pyramids.

Dr. Daniel N. Eisendrath, Chicago: I want to endorse the position taken by Dr. Davis in contradistinction to that taken by Dr. Connell and Dr. Frick. My experience is based on a personal observation of fifteen cases of subparietal rupture of the kidney. The conclusion has been forced on me that the more conservative we are in the treatment of subparietal rupture of the kidney, the greater will be our percentage of recoveries, and I think that is the tendency one sees in the foreign literature on this subject. I have seen some extremely severe cases in which I thought I would do a nephrectomy, but I have watched these patients bleed and bleed, and when left alone they have recovered. Why do they recover? Granted that the kidney is extensively destroyed, we know these patients are not good objects for operation; they are suffering from considerable shock, and the manipulation necessary to find and grasp the bleeding artery, which perhaps has already become partly or completely occluded by blood-clot, and then start up hemorrhage in a fresh field, is attended with more harm than if we let these patients alone. We know from our experimental work on the kidney that if we tie off the renal vessels, and leave the kidney *in situ*, that kidney undergoes complete atrophy, and within a period of a few months the kidney will be a mass of cicatricial tissue. That condition undoubtedly takes place in a certain proportion of cases where the kidney has been severely injured.

Dr. E. W. Andrews, Chicago: I have seen a man with a ruptured kidney on whom I had operated, and declined to remove the kidney because I thought I had successfully ligated the bleeding point, three days afterward get another severe, violent hemorrhage and die within a few minutes. We cannot get away altogether from the old teaching that a ruptured kidney is apt to cause death when conservatively treated, that is, nothing being done in the way of interference. I do not think we should stand by and let these patients with ruptured kidney have one hemorrhage after another without doing something for them; but it does not necessarily follow that nephrectomy is the only operation of choice in these cases, for sometimes, in addition to ligating the bleeding points, we can close the injured kidney with rows of mattress stitches, and if such an operation is done under aseptic conditions, it might give a percentage of successful results which would compare favorably with nephrectomy as a life-saving measure.

Dr. Walter Courtney, Brainerd, Minn.: I have seen many cases of injury of the kidney. If the surgeon will wait a few days, as he may in most cases, provided hemorrhage is not alarming and secondary anemia has not taken place, a large number of these cases will gradually clear up, and it will be found that the kidney has only been contused.

Dr. James E. Moore, Minneapolis: It is only in exceptional cases that a nephrectomy is justified for rupture of the kidney. A patient was brought into the University Hospital recently, thirteen days after he had been thrown in a runaway accident, and presumably had sustained a ruptured kidney. He was brought to us in a moribund condition with his bladder full of clotted blood. He died. At the post-mortem examination we found that he had sustained a rupture of one of the terminal branches of the renal artery just before it entered the kidney, and the presence of blood in the urine was accounted for by the fact that through pressure the blood was transmitted along and had broken through into the pelvis of the kidney at a point below and finding its way down the ureter into the bladder.

Dr. Donald Macrae, Council Bluffs, Ia.: It seems to me, it is well to take a middle ground in dealing with injuries of the kidney. If we make a positive diagnosis of post-peritoneal rupture of the kidney or of contusion, the case is not fraught with as much danger as other forms of injury to this organ. But if we find a patient is failing, we should resort to incision, with drainage, or whatever is necessary to be done at the time. It is better, however, not to fuss with the kidney if we can help it.

Commissions and Division of Fees

Dr. John P. Lord, Omaha, Neb.: Realizing that the practice of fee-division, joint fees and giving commissions is increasing at an alarming rate among the younger element, and that in many cities and towns it is the usual thing, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this problem and will yield to the general trend o practice unless some moral force within the profession or th effect of publicity checkmates this menace to professiona honor, dignity and decency. I agree with those who favo publicity as the speediest and most effective remedy. W should maintain a professional and public sentiment agains any countenance of graft. The practitioners who have fo years adhered to an inelastic fee bill find themselves wit their financial wings clipped, and unable to rise above the leve of customary fees. The specialist is something of a law unt himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's facult of fee getting and ask him to add a sum for them, as th people would object to paying them a proper amount.

Our medical schools have been remiss in their ethical instruction to students. The subject has been eschewed in som faculties for fear of engendering feeling, developing strife an endangering the integrity of the organization. The sam silence has prevailed in medical societies because it migh cost something to speak. There has already been more harm done than can be overcome for a generation. Delayed actio means more sacrifice. The organized profession should bus itself in reformation and take its stand in our medical colleges, hospitals and societies, and as individuals, and educat the public and reform our own members. The most hopefu view may be taken of the result. Any practice which eve smacks of graft, or of obtaining money under false pretenses cannot endure before a righteous public opinion. Nor wil it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiousl followed by the vast majority during all the ages of the history of medicine.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 14, 1910

The President, Dr. Henry Leffmann, *in the Chair*

Surgical Pathology of Chronic Constipation

Dr. L. J. Hammond: The surgical problem involved in chronic constipation concerns itself with those forms of constipation the result of mechanical factors which act either b inducing organic changes or local disease of the bowels. Chronic constipation is not a disease but a manifestation o disturbance or disease which alters intestinal function. Improvement follows the correction of such alteration. The surgeon frequently notes the existence of all sorts of variations from the normal relation and position of the abdominal viscera directly responsible for many cases of chronic constipation. The treatment of a person presenting the chain of symptoms resulting from mechanical obstacle to free intestinal drainage should be palliative only so long as is necessary to determine the character and extent of the pathology. In the majority of cases, to secure permanent benefit, the surgical treatment need go no further than the correction of malformation and faulty positions, division of bands, breaking up of adhesions, the removal of tumors, the replacement of the displaced viscera and removal of cicatricial strictures. If a stricture involves a greater portion of the intestinal wall than the serous coat, excision and anastomosis may be required. The more radical operation of colopexy advocated by Lane may be left to that extremely small group of cases in which, from long standing ptosis, the viscera have become so hopelessly displaced, angulated and dilated that it is impossible to restore drainage sufficient to empty the loaded sacculated loops.

Symptoms and Complications of Constipation

Dr. David Riesman: Strictly speaking, constipation is in itself only a symptom, and not a disease entity, and thus imposes on the physician the obligation to search out its cause. A thorough physical examination may reveal doughy masses in the abdomen, a contracted colon or ptosis of the viscera. Hyperchlorhydria is present in many cases and the constipation yields with the cure of the gastric condition. Anal fissure or hemorrhoids may be present either as cause or effect.

Constipation may be due to poisons, especially lead. In the majority of ordinary cases of constipation assimilation is probably too good, so that there is not enough residue to ferment under the influence of bacteria or mechanically to stimulate intestinal peristalsis. To this fact the constipation of many infants may be ascribed. The proof of auto-intoxication of gastro-intestinal origin is not conclusive. Indicanuria is not a correct measure of intestinal putrefaction; neither is the estimation of the amount of conjugate sulphates in the urine. A considerable quantity of such substances is eliminated in the feces and would have to be estimated if the degree of intestinal putrefaction is to be determined. Intestinal auto-intoxication is a possible condition but there is no clinical test by which it can be measured. Various forms of constipation due to organic causes are discussed, especially those of malignant tumor, perisigmoiditis, chronic appendicitis; also those produced by hernia, fibrous bands, Meckel's diverticulum, stricture and ovarian disease, and by pressure from without. Whether constipation *per se* increases blood-pressure has not been definitely determined, but the benefit accruing to an apoplectic patient from a free evacuation of the bowels would point in that direction.

Discussion on Constipation

Dr. Frederick J. Kalteyer: From a clinical point of view it should be our aim to study carefully the various clinical symptoms of constipation. Laboratory methods will not suffice in determining the degree of intestinal symptoms present. We should endeavor to treat patients as much as possible without drugs, having recourse rather to the hygienic, and to ingestion of foodstuffs with a large residue. The lower bowel is often at fault, and in such cases there should be cleansing with enemas of water or oil.

Dr. Lewis H. Adler, Jr.: It is important that the diet should contain food products allowing enough residue to stimulate peristalsis. In the matter of treatment, I direct the patient to go to the closet at a regular time each morning. If there is lack of tone, as is usually the case, I have them come to my office and use an injection. Another method of treatment used with excellent results is the use of a bag inserted at the sigmoidal junction inflated with air which tends to stimulate peristalsis. Exercise and the effort of proper breathing are helpful factors in treatment. I am opposed to the use of very large injections in the ordinary functional case of chronic constipation.

Dr Ernest LaPlace: We should remove all possible causes, surgical and organic, that lead to constipation. There are certain forms of intestinal stasis resulting from long-continued malnutrition which should be corrected.

Dr. George Erety Shoemaker: Much of the failure in treatment is due to the lack of persistence on the part of the patient. There are few who will give the time, money and effort to the overcoming of this troublesome condition. We tell the patient to go to the closet at a fixed hour, but this may mean the establishment of a separate toilet for the patient. Then, too, the patients must not be hurried for fear they will be seen, or otherwise made uncomfortable. Attention to the diet, the ingestion of a sufficient amount of water and the carrying out of proper methods of exercise for a sufficient length of time will often work a wonderful cure, but it takes time.

Dr. Alfred Hand, Jr.: I agree with those who have advocated conservative treatment, and yet I would emphasize the fact that a number of patients need surgical treatment. Many cases are due to definite inflammatory changes in the abdominal cavity and in these conservative treatment does not avail.

Dr. David Riesman: I agree with what has been said about the value of habits and food. One article of food which has given satisfactory results is an apple eaten at night, thoroughly masticated, and taken with a glass of water. Another measure of value is the massage roller, the applications following the line of the colon. Low injections of cottonseed oil at night and held in all night have effected cures in a certain proportion of cases of the ordinary type of constipation.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 7

1 Treatment of Gonorrhea in Women. H. J. Boldt, New York.
2 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
3 Nervous Affections and Adjustments of the Eyes. G. T. Stevens, New York.
4 Optic Nerve Changes and Cranial Malformations. A. Gordon, Philadelphia.
5 Twilight Talks with the Doctor. G. F. Butler, Chicago.
6 *Lymphoid Degeneration of the Conjunctiva. H. W. Wandless, New York.
7 Eosinophilia and Anaphylaxis. E. Moschcowitz, New York.
8 Manic-Depressive Insanity or Recurrent Insanity. M. Talmey, New York.
9 *End-Results of Surgical Operations on Nervous Women. S. T. Rucker, Memphis.
10 Diphtheria of the Vulva in a Child of Three. L. L. Smith, Washington, D. C.

6. **Lymphoid Degeneration of the Conjunctiva.**—It is Wandless' belief that trachoma is a non-specific disease; that it is in reality a lymphoid degeneration of the conjunctiva, a title he proposes for trachoma as being far more expressive. The principal lines of thought embodied in his paper are: (1) trachoma is non-specific and non-contagious; (2) follicular conjunctivitis and trachoma are one and the same disease; (3) pannus must be regarded as reparative; (4) trachoma is evidently chronic and self-limited in its nature; (5) predisposition and susceptibility are important causative factors; (6) trachoma may be caused by one or more of a number of agencies; (7) digestive disturbances, including auto-intoxication, are potent in the cause of trachoma; (8) errors of refraction deserve careful consideration as contributing causes of trachoma; (9) adenoids of the nasopharynx and trachoma are similar processes; (10) heredity, which has been practically excluded from causation, is undoubtedly an important factor.

9. Abstracted in The Journal, Dec. 3, 1910, p. 2005.

Medical Record, New York

January 7

11 Increasing Frequency of Inherited Syphilis and Importance of Its Early Recognition from the Standpoint of the Ophthalmologist. C. S. Bull, New York.
12 Hints for the General Practitioner on the Nature, Etiology and Early Diagnosis of Insanity. C. F. Macdonald, New York.
13 Pellagra. J. Collins and L. Sheldon, New York.
14 Ventilation of Kitchens and Bakeries. W. A. Evans, Chicago.
15 Surgical Anatomy of the Abdominal Wall with Reference to Appendectomy. W. E. Toble, Portland, Maine.
16 Theory as to the Untoward Effects of Diphtheria Antitoxin; Prophylaxis in Suspicious Cases. R. Wallace, Chattanooga, Tenn.
17 The American Game of Football: Is It a Factor for Good or Evil? M. J. Clurman, New York.

Boston Medical and Surgical Journal

December 29

18 *Principles Underlying the Study and Treatment of Chronic Arthritis. H. W. Marshall, Boston.
19 Radium Therapy. L. Wickham, Paris.
20 *The Care and Management of the Tabetic Bladder; Etiology. J. D. Barney, Boston.
21 Biography of Charles Spon, M.D. C. G. Cumston, Boston.

January 5

22 *Prevention and Treatment of Typhoid with Antityphoid Vaccine. F. F. Russell, Washington, D. C.
23 *Antityphoid Inoculation as Introduced into Certain Training Schools for Nurses in Massachusetts. M. W. Richardson and L. H. Spooner, Boston.
24 The Fresh-Air School. J. Perkins, Providence, R. I.
25 *Care and Management of the Tabetic Bladder: Prognosis and Treatment. J. D. Barney, Boston.

18. **Treatment of Chronic Arthritis.**—Marshall considers arthritis a symptom of many diseases. The most severe deforming types that stubbornly resist treatment and the mildest kinds that are easily controlled and permanently cured, he thinks, have similar origins. They differ only in the degree of severity with which the underlying causes act. Arthritic disease in every stage may often be modified by treatment, sometimes only slightly, and sometimes to a great degree, permitting permanent cures not infrequently. Proper

application of simple hygienic measures and correction of defective personal habits are the most adequate means of treatment in the early stages. Increased efficiency in treatment depends on greater clearness in understanding normal physiologic conditions that control health of joints, and also increased skill in treating diseases of other organs and infections that act as causes.

20. **Causes of Urinary Disturbances in Tabes.**—It is pointed out by Barney that the urinary disorders of tabes are dependent on (a) a disturbance in the transmission of sensory impulses from bladder, (b) incoordination of the muscles of micturition, (c) urinary infection.

22 and 23. **Antityphoid Inoculation.**—The authors of these two papers favor antityphoid vaccination. They claim that the inoculated individuals have acquired an increased resistance to typhoid infection which will last for several years at least.

25. **Treatment of Bladder Infection in Tabes.**—According to Barney, infection of the urinary tract occurs in over 50 per cent. of patients with tabes dorsalis. The mortality from such an infection is nearly 60 per cent. Catheterization and irrigation of the bladder, at regular and frequent intervals, combined with the constant use of an efficient urinary antiseptic will (a) delay, prevent or reduce the activity of urinary infection; (b) postpone the appearance of residual urine, or diminish its amount if present; (c) relieve symptoms. Reeducation of the muscles of micturition, combined with local treatment, will cure or relieve most of the symptoms which harass the life of a tabetic. It is, therefore, of the utmost importance. Barney urges that the combined treatment of the nervous system and of the urinary tract is essential for the welfare of the patient.

Lancet-Clinic, Cincinnati

December 31

26 Pathology and Etiology of Dysmenorrhea. J. W. Rowe, Cincinnati.
27 Cardiac Weakness, Its Causes and Treatment. J. H. Honan, Bad Nauheim, Germany.

Medical Fortnightly, St. Louis

December 26

28 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
29 Spina Bifida. W. L. Crosthwait, Holland, Texas.

American Medicine, Burlington, Vt.

December

30 Pyelitis in Pregnancy, Its Etiology and Cystoscopic Diagnosis. E. McDonald, New York.
31 Clinical Observations on Blood-Pressure with Special Reference to the Effect of Prostatic Massage. D. M. Cowie, Ann Arbor, Mich.
32 A New and Safe Method for the Submucous Removal of the Deflected Bony Septum. O. Glogau, New York.
33 Tuberculous Pericarditis and Myocarditis. F. O. Manning, New York.
34 Peritonsillar Abscess with Description of a New Instrument for Opening and Irrigating the Abscess Cavity. H. Hays, New York.
35 Results Obtained with Intravenous Medication. J. F. Sommes, Vincennes, Ind.

University of Pennsylvania Medical Bulletin

December

36 A Case of Patent Ductus Arteriosus Botalli. E. H. Goodman, Philadelphia.
37 Early Operation for Psoas Abscesses. J. K. Young, Philadelphia.
38 The Medical Side of Benjamin Franklin. W. Pepper, Philadelphia.

New York State Journal of Medicine

December

39 *Control of Typhoid in the Army by Vaccination. F. F. Russell, U. S. Army.
40 *Relation of the Interstitial Cells of the Testicle to Its Internal Secretion. A. M. Pappenheimer and B. Schwartz, New York.
41 *Latest Experiences with Salvarsan (606). W. Wechselmann, Berlin.
42 Early Diagnosis of Syphilis Through the Living *Spirochæta Pallida.* E. W. Ruggles, Rochester, N. Y.
43 Gonorrheal Arthritis Treated by Gonococcus Vaccines. G. R. Satterlee, New York.
44 The Objects and Aims of Medical Education. J. Van Duyn, Syracuse.

39. Also published in the *Boston Medical and Surgical Journal*, Jan. 3, 1910; see Abstract No. 22.

40. **Relation of Interstitial Cells of Testicle to Its Internal Secretion.**—Illustrations are cited by Pappenheimer and Schwartz to show that the orderly development of the primary and secondary sexual characters is controlled by complex factors—some of which at least, lie without the genital sphere itself. While the authors do not deny that the testicle exerts a definite chemical influence on the whole organism, they are unwilling to admit that the evidence at hand is sufficient to connect the interstitial cells specifically with the supposed internal secretion. Not only has it been impossible for them to eliminate the Sertoli cells from consideration, but it has been shown that the interstitial cells may be abundantly present in cases of arrested or incomplete development of the sexual characters. They believe that it is highly probable that further research will reveal correlations and antagonisms between the genital organs and other glands of internal secretion, and that the too simple theory which ascribes the entire complicated series of changes attending the development of the sex characters, to the interstitial cells alone, will have to be modified or abandoned.

41. **Experiences with Salvarsan.**—The first attempts at the cure of hereditary syphilis in the new-born were in the patients afflicted with pemphigus and who were no doubt doomed to an early death. In some a dose of 0.3 gm. produced symptoms which could be ascribed to toxemia produced by the destruction of a large number of spirochetes from the internal organs. Wechselmann then gave doses of from 0.015 to 0.02 gm. which was repeated in from eight to twelve days. The first patient was cured after having received 0.015 gm. on April 4 and on April 15. No recurrence has taken place thus far. But, because the Wassermann reaction, which had become negative, again became positive on June 27, another injection was given which resulted in a negative reaction. Wechselmann has in this way treated five other cases of syphilis in the newly-born, and in all the infants the symptoms have been arrested without any harmful after-results. This encouraged him to reinject with a stronger dose patients with most malignant syphilis previously reported, who had shown brilliant results, but in whom small remaining ulcerations showed that a complete cure had not been effected, owing no doubt to too small doses. These second injections were made when complete elimination of the first dose could be safely expected. The number of partial failures is infinitely small compared to the large number of prompt cures; Wechselmann has now treated 1,050 cases.

The number of reinjections for recurrence is also remarkably small. In the majority of cases only very small foci could be detected; the exception to this was two cases. In one patient with originally severe syphilis, Wechselmann found fifteen small and much softer infiltrations and in another, injected on June 29 with 0.5 gm., a second injection was given, because the Wassermann reaction was still positive on August 23 and the man was suffering at that time from impetigo capitis. Other reinjected cases were, one of periostitis; two of iritis; one of chorioiditis; one a slight trochlear paralysis; one case of abducens paralysis and one case of angina. In another rather unusual case the patient received a second injection. This patient was a strong, otherwise healthy man who had received 0.5 gm. acid solution on June 16 for a primary lesion and papular syphilides, and who had on August 24 a curious attack of an aura ascending from the legs accompanied by loss of consciousness and biting of tongue. The Wassermann reaction was positive at the time of the second injection. In two patients, in the second and third months respectively after the injection, and with a negative Wassermann reaction, occurred severe headaches which did not yield to usual headache remedies, but which were promptly cured by a second injection. In some of these cases a previous mercury treatment was unsuccessful.

Recognizing fully the severer lapses observed by others, Wechselmann is of the opinion that these relapses were probably due to the setting free of encapsulated deposits by the remedy. These observations have been made in the late stages of cases treated with mercury, in which the repeated courses of treatment had removed most of the spirochetes in the body. He believes that we should not exceed the well-established curative dose of from 0.5 to 0.6 gm. for men and 0.45 for women, which may be repeated in the infrequent relapses. Wechselmann has now treated more than 1,000 cases by the subcutaneous or intramuscular injection of doses from 0.45 to 0.6 gm. and has never seen any toxic effects. Slight degrees of arsenic poisoning have occurred in a few cases, such as gastric symptoms and atonica of the intestine, which may be explained by the well-known effects arsenic has on the contractile tissues of the mesenteric vessels.

Among the contra-indications to the use of salvarsan have been mentioned weak heart and organic cardiac disease. Wechselmann has treated two patients with dilatation of the aorta with small aortic aneurysm at first with doses of 0.3 and 0.1 gm. respectively, without doing any damage. He has also treated successfully a man, aged 85, with extensive arteriosclerosis, suffering from a primary sore of the prepuce and papular syphilitic skin eruption, the dose being 0.4 gm. He has grave doubts about treating patients with very weak and flabby heart-muscle, such as we often find in tabes; equally so, patients with stenosis, because he is afraid of the depression of arterial blood-pressure which takes place in arsenic poisoning. But a weak heart is furthermore a contraindication on account of the hypersensitiveness to the medicine found in some patients. The second important fear about the new remedy was in regard to damage to the optic nerve, on account of such effect by other arsenic derivatives. This fear has, however, so far not been confirmed. At first all patients with diseases of the optic nerve were excluded; later, in some doubtful cases, they were treated. Wechselmann has, in six cases of either beginning or advanced optic nerve disease, used the remedy in the hope of arresting the progress of the atrophy. In none was the nerve condition made worse, so that further careful trials in such cases should be made.

New Mexico Medical Journal, Las Cruces

December

45 Surgical Progress in the Past Ten Years. J. W. Colbert, Albuquerque.
46 Treatment of Wounds. F. de la Vergne, Albuquerque.
47 Operative Treatment of Uterine Retrodisplacements. C. M. Yater, Roswell.

Montreal Medical Journal

December

48 Medicine of the Earlier Days of Montreal. W. G. Stewart, Montreal.
49 The Cure of Syphilis. F. McK. Bell, Ottawa.
50 Typhoid Perforations and Perforations of the Gall-Bladder. G. E. Armstrong, Montreal.
51 Double Radical Frontal Sinus and Antrum Operation. E. H. White, Montreal.
52 Miliary Tuberculosis of the Chorioid. G. H. Mathewson, Montreal.

Northwest Medicine, Seattle

December

53 Bilateral Renal Calculus. E. O. Jones, Seattle.
54 The Fibroid Uterus. A. E. Rockey, Portland, Ore.
55 Clinical Cases of Pellagra. R. E Dunlap, Portland, Ore.
56 Etiology of Cholecystitis. J. E. Else, Pullman, Wash.
57 *Tochil, or Endemic Hemoptysis. M. M. Null, Seattle.
58 Facts Concerning Myopia of Children. E. E. Maxey, Boise, Idaho.
59 Surgical Treatment of Cancer of the Prostate. G. S. Whiteside, Portland, Ore.
60 Vaughan's Typhoid Residue. H. E. Coe, Seattle.
61 Is a High Total Acidity of the Urine Pathognomonic of Cardiac Disease? A. M. Smith, Tacoma, Wash.
62 Should Cobwebs Cover the Obstetric Forceps? G. S. Wright, *Friday Harbor*, Wash.

57. **Tochil, or Endemic Hemoptysis.**—Tochil, or endemic hemoptysis, is an endemic disease, caused by a distomum or flat worm that burrows in the tissues, characterized by a chronic cough, a rusty, brown pneumonia-like sputum, hemoptysis, anemia and toxemia. It is limited in its geographic distribution. So far as Null knows, it is found only in Korea, Formosa, and parts of Japan. A doubtful case has been reported in China. No cases have been reported in America. Null's patient was a Korean who came from Seoul five years before; for two years he had been coughing, and for one year he had been spitting blood. He was 26 years old, large and well built. His pulse was 80, respiration 22, temperature 98.5 F. He did not complain of pain, and his appetite was moderately good. Physical examination showed the apices sunken on both sides, slight dulness on the right side, with a small cavity in the upper lobe. Expansion was normal. Urine was normal. Blood-examination showed Hg 60 per cent., erythrocytes 4,800,000, leukocytes 10,000. He was weak—not able to do normal labor. Having seen many cases of the disease in the Orient, Null at once recognized it and an examination of the sputum proved it to be tochil.

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the body. He believes that we should not exceed the well-established curative dose of from 0.5 to 0.6 gm. for men and 0.45 for women, which may be repeated in the infrequent relapses. Wechselmann has now treated more than 1,000 cases by the subcutaneous or intramuscular injection of doses from 0.45 to 0.6 gm. and has never seen any toxic effects. Slight degrees of arsenic poisoning have occurred in a few cases, such as gastric symptoms and atonica of the intestine, which may be explained by the well-known effects arsenic has on the contractile tissues of the mesenteric vessels.

Among the contra-indications to the use of salvarsan have been mentioned weak heart and organic cardiac disease. Wechselmann has treated two patients with dilatation of the aorta with small aortic aneurysm at first with doses of 0.3 and 0.1 gm. respectively, without doing any damage. He has also treated successfully a man, aged 85, with extensive arteriosclerosis, suffering from a primary sore of the prepuce and papular syphilitic skin eruption, the dose being 0.4 gm. He has grave doubts about treating patients with very weak and flabby heart-muscle, such as we often find in tabes; equally so, patients with stenosis, because he is afraid of the depression of arterial blood-pressure which takes place in arsenic poisoning. But a weak heart is furthermore a contra-indication on account of the hypersensitiveness to the medicine found in some patients. The second important fear about the new remedy was in regard to damage to the optic nerve, on account of such effect by other arsenic derivatives. This fear has, however, so far not been confirmed. At first all patients with diseases of the optic nerve were excluded; later, in some doubtful cases, they were treated. Wechselmann has, in six cases of either beginning or advanced optic nerve disease, used the remedy in the hope of arresting the progress of the atrophy. In none was the nerve condition made worse, so that further careful trials in such cases should be made.

New Mexico Medical Journal, Las Cruces

December

45 Surgical Progress in the Past Ten Years. J. W. Colbert, Albuquerque.
46 Treatment of Wounds. F. de la Vergne, Albuquerque.
47 Operative Treatment of Uterine Retrodisplacements. C. M. Yater, Roswell.

Montreal Medical Journal

December

48 Medicine of the Earlier Days of Montreal. W. G. Stewart, Montreal.
49 The Cure of Syphilis. F. McK. Bell, Ottawa.
50 Typhoid Perforations and Perforations of the Gall-Bladder. G. E. Armstrong, Montreal.
51 Double Radical Frontal Sinus and Antrum Operation. E. H. White, Montreal.
52 Miliary Tuberculosis of the Chorioid. G. H. Mathewson, Montreal.

Northwest Medicine, Seattle

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53 Bilateral Renal Calculus. E. O. Jones, Seattle.
54 The Fibroid Uterus. A. E. Rockey, Portland, Ore.
55 Clinical Cases of Pellagra. R. E. Dunlap, Portland, Ore.
56 Etiology of Cholecystitis. J. E. Else, Pullman, Wash.
57 *Tochil, or Endemic Hemoptysis. M. M. Null, Seattle.
58 Facts Concerning Myopia of Children. E. E. Maxey, Boise, Idaho.
59 Surgical Treatment of Cancer of the Prostate. G. S. Whiteside, Portland, Ore.
60 Vaughan's Typhoid Residue. H. E. Coe, Seattle.
61 Is a High Total Acidity of the Urine Pathognomonic of Cardiac Disease? A. M. Smith, Tacoma, Wash.
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Bulletin of the American Academy of Medicine, Easton, Pa.

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109 The Teaching of Therapeutics. W. F. Waugh, Chicago.
110 Relation of the Individual to the Social Organism. J. H. McBride, Pasadena, Cal.
111 The Parent, the Strategic Point of the Present. C.-E. A. Winslow, Boston.
112 *Reduction of Infant Mortality in New York. T. Darlington, New York.
113 *Three Years' Experience of the Babies' Dispensary and Hospital of Cleveland in the Education of the Mothers. H. J. Gerstenberger, Cleveland.
114 *Outline for the Study and Prevention of Infant Mortality for Boards of Health of Small Cities. S. M. Gunn, Orange, N. J.
115 *Fit and Unfit Matings. C. B. Davenport, Long Island, N. Y.
116 *The Limits of Eugenics. A. G. Keller, New Haven, Conn.
117 *Responsibility of the Physician for Public Education in Physiology and Hygiene. J. M. Tyler, Amherst, Mass.
118 *The Foundations of Prevention. W. T. Sedgwick, Boston.
119 *The Concentration Plan of Teaching Medicine. H. A. Christian, Boston.
120 *The Medical Curriculum. W. H. Welch, Baltimore.
121 *State Boards and Entrance Requirements. H. Harlan, Baltimore.
122 *Teaching Ophthalmology. A. R. Baker, Cleveland.
123 *The College Association Standard. A. Flexner, New York.

112, 113, 114, 115, 116, 117 and 118. Abstracted in The Journal, Jan. 1, 1910, pp. 72, 73, 74 and 75.

119 and 123. Abstracted in The Journal, April 9, 1910, pp. 1228 and 1229.

120, 121 and 122. Abstracted in The Journal, April 16, 1910, pp. 1332 and 1333.

Journal of Nervous and Mental Diseases, Lancaster

December

124 *Seroreactions in Cases of Nervous and Mental Diseases. E P. Corson-White and S. D. W. Ludlum, Philadelphia.
125 *Visual Disturbances in Multiple Sclerosis. T. Klingmann, Ann Arbor, Mich.
126 Case of Am M. Hummel, New Orleans.
127 *Difficulties a Diagnosis of Paralysis. G. H. Scl C.

124. Abstracted in The Journal, July 16, 1910, p. 249.

125. Visual Disturbances in Multiple Sclerosis.—Klingmann says that prolonged visual disturbances without ophthalmoscopic changes are extremely rare in cerebral syphilis, but frequent in multiple sclerosis. Unilateral appearance of visual disturbances is common to both cerebral syphilis and sclerosis *en plaques.* Unilateral central, definitely circumscribed scotoma, with a normal field of vision in the opposite eye, is most likely to be due to syphilitic disease, it is always due to organic disease. *Papillitis almost never occurs in multiple* sclerosis, although hyperemia of the papilla at the beginning of sclerosis *en plaques* is not unusual, it is present in 14 per cent. of cases of cerebral syphilis. An absolute central scotoma is relatively rare in multiple sclerosis, frequent in neuritis axialoris. A central scotoma is not infrequent in both acquired and congenital syphilitic disease of the central nervous system. An unilateral, paracentral scotoma is indicative of a lesion in the optic nerve in the neighborhood of the foveal fibers and is most frequent in syphilis. Visual disturbances without ophthalmoscopic changes almost never occur in organic lesions of the opticus; and in most chronic diseases of the optic nerve and chiasma, the fundus, the visual field and central visual acuity are abnormal, except in sclerosis *en plaques* where negative ophthalmoscopic findings are frequently associated with abnormal visual acuity. Scotomata due to functional nervous disease are relative, never absolute. Hysterical scotomata are so infrequent that they should always suggest organic disease. In true multiple sclerosis early in the disease the most frequent symptom complex referred to the vision is: blurring or cloudiness of vision, negative ophthalmoscopic findings, absolute paracentral scotomata, normal peripheral field with little or no disturbance of central visual acuity. *This combination is indicative of multiple sclerosis and when* associated with exaggerated tendon reflexes is sufficient to establish this diagnosis. If the scotomata are but relative, hysteria would still be a possibility. If, however, the Babinski toe reflex is present on one or both sides, it can positively be eliminated. Klingmann cites twelve cases.

127. Making a Diagnosis of Paresis.—Schwinn urges that in all cases presenting clinical evidences of paresis, and in all cases in which there is an element of doubt as regards diagnosis, a cytologic and chemical examination of the cerebrospinal fluid should be made. Also, an examination of the blood and cerebrospinal fluid for the Wassermann reaction should be made. Further, all cases of paresis, or suspected paresis coming to necropsy should be studied histologically, as the brain does not always present the typical picture described when viewed with the naked eye. Paresis is a diffuse process, and all parts of the cortex are more or less involved, presenting an infiltration which presents numerous plasma cells. This differentiates it from other meningo-encephalides which are more focal in character. Schwinn believes that with a negative Wassermann reaction one can positively exclude paresis.

Archives of Pediatrics, New York

December

128 Need of More Complete Registration of Births. J. H. M. Knox, Baltimore.
129 Nasal Diphtheria. E. E. Graham, Philadelphia.
130 *Cold Air in Treatment of Acute Respiratory Conditions. J. P. C. Griffith, Philadelphia, and L. E. LaFétra, New York.
131 A Present-Day View of Infant Feeding. T. N. Gray, East Orange, N. J.
132 Relation of Orthopedic Surgery to Pediatrics. S. A. Twinch, Newark, N. J.
133 *Nephritis in Children. A. W. Bingham, East Orange, N. J.
134 Mechanical Injuries of the Head in Infants and Children. H. Illoway, Cincinnati.
135 *Congenital Goiter. E. W. Mooney, Detroit.

130. Abstracted in The Journal, May 21, 1910, p. 1712.

133. Nephritis in Children.—The main object of the treatment of nephritis in children, says Bingham, is to rest the diseased kidneys and give Nature a chance to restore them to their proper function. The child should be kept in bed on a light diet, consisting either of milk alone or milk and a moderate quantity of some farinaceous food. The bowels are kept active and the skin encouraged to assist in the work of the kidneys. Warm baths and hot packs are valuable aids, as also saline injections per rectum. The skin must be kept warm. Only mild diuretics should be used in order not to irritate the already inflamed kidneys. Potassium bitartrate in the form of lemonade or orangeade is a valuable means of increasing the quantity of urine when necessary, for besides acting as a mild diuretic it is one method of getting the child to drink the desired amount of water. It is well to change the flavor of this drink, or the child may soon tire of it. When the pulse is of very high tension only a moderate quantity of water should be taken. The return to a general diet must be slow, and it is difficult to regulate this satisfactorily in all cases, as these children are always calling for a greater variety of food. Bingham emphasizes the importance of more regular examination of the urine in children, especially following the acute infectious diseases. By doing so, he says, we will be able to detect the disease in its incipiency and save a certain percentage of cases from chronic nephritis and death.

135. Congenital Goiter.—Six cases are reported by Mooney. The following points are of interest in these cases: All six mothers were goiterous. Five mothers were multiparæ. One mother was a primipara. One mother had sugar in urine before labor. In one case the mother and grandmother were goiterous; in another the mother and two of her sisters were goiterous. In a third case there was a history of infection in the family. One child was born dead; one baby died two days after birth; one died two years after birth of bowel infection. Two were living when last heard from; another, 18 years old, was goiterous.

Laryngoscope, St. Louis

December

136 Present Status of Otolaryngology. J. F. McKernon, New York.
137 Nasal Phenomena of Neurasthenia. C. P. Grayson, Philadelphia.
138 Respiration for Tone-Production. F. V. Laurent, Philadelphia.
139 A Fatal Case of Quinsy in an Adult. J. J. Thomson, New York.
140 The Straight Method of Laryngoscopy. R. H. Johnston, Baltimore.
141 Method by Which an Open Safety-Pin Was Removed from the Bronchus Without Closing the Pin. O. W. Turner, Augusta, Maine.
142 Scleroma of the Upper Air Passages. J. W. Durkee, Brooklyn, N. Y.
143 Symptoms of Temporo-Sphenoidal Abscess. L. W. Dean, Iowa City, Iowa.
144 Apparatus for Administration of Ether and Chloroform Vapor. C. C. Collier, Chicago.

Journal of the Medical Society of New Jersey, Orange

January

145 *The Alienist as an Expert Witness. W. H. Hicks, Newark.
146 *Relation of Water to Malarial Fevers. J. Walters, Wharton.
147 Fracture of the Internal Condyle of the Humerus. J. J. Mooney, Jersey City.
148 *New Operation for Complete Vesical Hernia in Women. J. M. Rector, Jersey City.
149 Etiology, Pathology and Treatment of Concomitant, Convergent Strabismus. L. Emerson, Orange.
150 Refracting Opticians. J. Thorington, Philadelphia.

145, 146. Abstracted in The Journal, Aug. 6, 1910, pp. 527 and 528.

148. **Operation for Complete Vesical Hernia in Women.**—Operating through the abdominal wall, Rector first divides the peritoneum on the anterior surface of the uterus almost at the fundus, dissecting laterally, right and left, sufficiently far so as not to form a medium ridge with lateral valleys when the denuded bladder floor is brought upward. The floor of the bladder is dissected from its bed, pulled up until the sacculation disappears and sutured to the anterior uterine fundus and wall. Uterine fixation to abdominal wall is done, by three sutures, one posterior to the fundus, one to the fundus, and the third at or near the junction of sutured surfaces. In some cases there has followed, for a few days only, some pain and bladder irritation from the changed position. This has been transitory only and need cause no alarm. Any repair work necessary to vagina or vulva can be done at the same time. Patients are catheterized every four or six hours and the bladder is irrigated if necessary; they are kept in bed two to three weeks. The usual care to feeding and bowel action is given.

Woman's Medical Journal, Cincinnati

December

151 Word Tests for Complexes in Four Cases of Disturbed Mentality. M. K. Isham, Columbus, Ohio.
152 Servants as Carriers of Disease. E. W. Young, Boston.
153 "Nervousness" and Education. The Rôle of the Teacher. T. A. Williams, Washington, D. C.

Journal of the Michigan State Medical Society, Battle Creek

January

154 Problems in Sanitary Science. G. L. Kiefer, Detroit.
155 *Scopolamin and Morphin. W. H. Morley, Detroit.
156 Chloroform and Ether. N. N. Wood, Ann Arbor.
157 Technic of Anesthesia in Obstetrics. J. B. Whinery, Grand Rapids.
158 Anesthesia in Its Relation to Postpartum Hemorrhage. J. N. Bell, Detroit.
159 Administration of Inhalation Anesthetics. C. E. Boys, Kalamazoo.
160 *Proposed Solution for Certain Phases of Contract Practice. W. H. Haughey, Battle Creek.

155. Abstracted in The Journal, Nov. 5, 1910, p. 1674.

160. **Solution for Phases of Contract Practice.**—In self-protection, Haughey deems it wise for county societies to elect committees whose duties should be to arrange terms and fees with workmen and factories, whereby injured employees would be cared for by members of the county society. A concession in fee rate should be granted, and a guarantee of payment obtained. Such an arrangement would secure to the injured employee his choice in professional services available in his community, and ensure to the surgeon his entire fee instead of merely for the first call. Advantages, first, to the patient: assurance of interested attendance throughout the entire case. Second, to the factories: assurance that the injured would receive competent surgical aid. Third, to the physician: assurance of not being robbed of professional acquaintance that he has labored years to establish.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 24

1 *Rest and Movement in Tuberculosis. R. W. Philip.
2 "Eye" in Sport. R. W. Doyne.
3 *Influence of Diet on the Formation and Healing of Acute Gastric Ulcer. C. Bolton.
4 Thyroid Grafting and the Surgical Treatment of Exophthalmic Goiter. E. W. H. Groves and C. Joll.
5 Common Causes of Discharge from the Ears, and Its Treatment. W. M. Mollison.

1. **Rest and Movement in Tuberculosis.**—While rest is helpful in the treatment of pulmonary tuberculosis, and indeed essential, at certain times, Philip emphasizes that the prolonged continuance of resting treatment is fraught with unsatisfactory results. In many instances the patients may seem to improve. Perhaps they put on weight in large amount. Often they become heavy and corpulent, but it is commonly mere fat; the skin textures remain pallid and toneless; the muscular tissue remains soft and flabby, and the individual himself is far from physiologically fit. So long as the tuberculous process is in active operation, toxins are readily elaborated and passed freely to the muscles with resultant progressive dystrophy. This dystrophy affects not only the muscles of the trunk and extremities, where it is evident, but affects likewise the heart-muscle, the muscles of the vessels, and the muscles of other viscera. At this stage the indication for treatment is mainly rest. Rest has the double advantage of tending to stay the active local lesion and of limiting the output of energy by the dystrophic muscles. On the other hand, when the tuberculous lesion is less active or in process of arrest, and the production and carriage of toxins is correspondingly less abundant and rapid, the dystrophic muscles tend to recover themselves physiologically. Nothing repairs muscular tissue so certainly as natural movement. This is the motif and guide in the institution of regular activity. As recovery proceeds further, the aim comes to be the restoration of physiologic function, both locally, so far as the respiratory function of the lung is concerned, and generally, so far as the circulation and the musculature are concerned. The process of repair is most readily traceable in the muscles of the trunk and extremities. By the institution of natural movements, the physiologic cure or "recreation" is assisted, and there follows a gradual return toward the normal condition of health of every organ. While natural repair is thus hastened by carefully adjusted movement, there is reason to suppose that at the same time a degree of relative immunization to tuberculosis is secured. It may be that under the influence of activity a process of autoinoculation is instituted. That is to say, by reason of the accelerated circulation a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react, and to produce certain opposing elements or antibodies. The amount of activity allowed must in every case be determined with exactness. Regard must be paid not vaguely to the nature of the case of the so-called stage of disease, but adjustment must be guided by the needs of the individual patient. Activity in excess may serve to aggravate the local process. The lung trouble may once more take on an acute character, and an especially significant point is that excessive discharge of toxins through the system may be recommenced. In other words, an exaggerated autoinoculation may ensue with corresponding retardation of cure.

3. **Diet and Gastric Ulcer.**—Following careful experimentation by Bolton, the theory with regard to the part played by the gastric juice in the production of gastric ulcer receives further confirmation, because ulceration is the more rapidly produced in proportion as the gastric juice is allowed a longer period of contact with the wall of the stomach. The epithelium grows over the base of an ulcer more rapidly when the animal is given a milk diet than when it is given a meat diet.

In the case of a milk diet the base of a moderate-sized ulcer is usually completely covered by the twentieth day, while in the case of a meat diet, the same-sized ulcer would in most cases be uncovered in the center in that time. Frequently, in the case of meat-fed animals, the ulcer is completely uncovered on the twentieth day, the granulation tissue of the base of the ulcer having become necrotic. Such an ulcer may be only one-fifth of the size of the original ulcer owing to the contraction of the fibrous tissue in the base, although healing has only commenced at the edge. In the treatment of a case of ulcer of the stomach, Bolton holds that the following principles should be observed: (a) During the early stages of the healing of acute ulcer the patient should be given a food which does not stay long in the stomach and which does not excite a copious flow of the gastric juice. (b) The period of treatment in bed should be at least three weeks. (c) The starvation diet of the older physicians is not necessary, because the general nutrition suffers too much, and because ulcers heal well on some diet such as the above. (d) In the case of acute ulcers which are extending, or chronic ulcers, healing cannot be expected to occur in three weeks, because the ulcer must first be got into a suitable condition for healing, and then, owing to its size and thickness, the healing must take some weeks longer to be completed, so that the treatment in bed is to be conducted like that of simple acute ulcer, but extended over a period twice as long. (e) Since in many cases of gastric ulcer there is hyperacidity of the gastric juice, and when the gastric juice is acting destructively hyperacidity increases this destructive tendency, this high degree of acidity should be controlled by the administration of alkali. This is not so necessary in acute ulcer as in the more chronic forms, because the few estimations that have been made of the gastric secretion in acute ulcer show that it is not hyperacid, and it has been found experimentally that the effect of acute ulcer is to diminish the secretion in the early stages, and that secretion becomes normal as the ulcer heals.

Lancet, London

December 24

6 The Disorder of Medical Charity. L. E. Shaw.
7 Medical Students and Medical Practitioners. G. H. Colt.
8 *Treatment of Splenic Anemia by Splenectomy. G. A. Sutherland and F. F. Burghard.
9 Surgical Treatment of Cancer of the Vulva and Its Precancerous Stage. F. J. McCann.
10 Value of Vaccination and Revaccination. F. M. Sandwith.
11 *Fatal Case of Anemia in Which the Widal Reaction was Obtained. P. Gully.
12 Use of Pituitary Extract in Obstetrics and Gynecology. S. J. Aarons.
13 Practical Sterilization of Potable Waters by the Ultraviolet Rays. J. C. Thresh and J. F. Beale.

8. **Treatment of Splenic Anemia.**—The authors report two successful cases of splenectomy for splenic anemia. One patient, a girl aged 12 years, was in very bad condition when operated on, the blood examination showing red corpuscles, 2,420,000; hemoglobin, 56 per cent., and white corpuscles, 9,800. A differential count of the white cells showed nothing abnormal. The spleen with the contained blood weighed 2 pounds, and showed general hyperplasia of all the tissues. There was no marked shock after the operation, and when the effects of the anesthetic had passed off, the patient made a rapid recovery. Three days after the operation it was found that the red cells had increased from 2,500,000 to 4,700,000, and the hemoglobin from 40 per cent. to 76 per cent., an improvement which was maintained until at the end of another week the red cells were normal in number. This alteration was also visible in the appearance of the child; the yellow tinge of the skin had gone, the cheeks were pink in color, and the lips had taken on a healthy red hue. There was no compensatory enlargement of the lymphatic glands. Four years after the operation, she was a well-grown girl in service as a nursemaid. There were no marked signs of anemia in her appearance. Blood examination showed red blood-corpuscles, 3,600,000; hemoglobin, 78 per cent., and white blood-corpuscles, 6,400.

The second patient was a girl aged 6 years. Examination of the blood gave the following result: Red blood-corpuscles, 1,870,000; hemoglobin, 30 per cent.; white blood-corpuscles, 2,400, and color index, 0.8. The red corpuscles were various in size, megalocytes, microcytes, and all intermediate gradations being present. There was a little polychromatophilia in some of the corpuscles, but it was not marked, and there was no punctate basophilia. The red cells were normally shaped, poikilocytosis being absent. Nucleated red cells, all normoblasts, were present to the extent of about 600 per cubic millimeter. Among the white cells there were large hyalines (0.4 per cent.), myelocytes (1.2 per cent.), and mast cells (1.2 per cent.). The patient stood the operation well, there was no marked shock, and after the effects of the anesthetic had passed off she had no untoward symptoms of any kind. Four days after the operation, the patient's color had decidedly improved, the lips were redder in color, and the yellow tint of the conjunctivæ and skin had gone. A blood-count gave red blood-corpuscles, 4,000,000; hemoglobin, 52 per cent; white blood-corpuscles, 10,800, and color index, 0.6. There were no abnormal red corpuscles, nucleated or degenerated forms, seen, and no abnormal leukocytes. The child improved daily. There was no compensatory enlargement of the lymphatic glands. On the seventeenth day after the operation the red corpuscles were 5,200,000, the white corpuscles 3,400, and the hemoglobin was 65 per cent. The patient, seven weeks after the operation, was well.

11. **Fatal Case of Anemia.**—Gully reports a case of pernicious anemia complicated by typhoid fever, in which the Widal test was positive in dilutions of 1 in 30 and 1 in 50 within one hour.

Medical Press and Circular, London

December 7

14 Diagnosis of Prolonged Pyrexia. F. Taylor.
15 Prostration Following Sea-Sickness, and Associated with Acetonuria. T. Bushby.
16 Soluble Milk Albumin in Infant Feeding. F. S. Toogood.

December 14

17 Three Cases of Duodenal Ulceration. F. de Havilland.
18 Acute Miliary Tuberculosis Simulating Appendicitis: Phagocytosis of Tubercle Bacilli by Cells in Cerebrospinal Fluid. F. X. Callaghan.
19 Cancer of the Larynx in the Light of a New Theory. R. H. T Scanes-Spicer.
20 Poliomyelitis: Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.

Journal of Tropical Medicine and Hygiene, London

December

21 Mossman Fever. O. Smithson.
22 West Africa and Insurance: A Plea for Routine Blood Examination. T. F. G. Mayer.

Journal of Laryngology, Rhinology and Otology, London

December

23 Education of the Specialist in Laryngology, Rhinology and Otology. P. W. Williams.
24 Deafness and Diseases of the Ear in Relation to the Public Services and Insurance. J. Horne.
25 Mnemonic Tabes for Normal Labyrinthine Nystagmus. J. Adam.

Bristol Medico-Chirurgical Journal

December

26 The Medical Aspect of Boswell's "Life of Johnson," with some Account of the Medical Men Mentioned in That Book. B. M. H. Rogers.
27 *Surgical Aspect of Gylcosuria and Diabetic Gangrene. C. A. Morton.
28 Hyoscin and the Mydriatic Alkaloids. J. M. Fortescue-Brickdale.
29 Excision of Strictures of the Urethra. E. W. H. Groves.
30 An Old-Time Syphilidiater. H. J. Norman.

27. **Surgical Aspect of Glycosuria.**—Morton reports three cases of diabetic gangrene, in which amputation was successfully performed at the joint, under spinal anesthesia.

Clinical Journal, London

December 7

31 Typhoid. W. H. White.
32 Ateleiosis (Hastings Gilford's Form of Essential Infantilism). H. B. Shaw.
33 Roentgen-Ray Examination of the Digestive System. R. Morton.

Practitioner, London

December

34 Vaccine Therapy of Bronchitis. A. Latham.
35 Vaccine Therapy of Tuberculosis. H. B. Shaw.
36 Vaccine Therapy. E. v. Ofenheim.

37 Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Mental Diseases. R. Jones.
38 Diagnosis and Home Treatment of Scarlet Fever. F. G. Crookshank.
39 Gallstones. J. Kirkland.
40 Salvarsan. L. F. Knuthsen.
41 Efficacy of Blood-Letting. J. W. Milne.
42 Erythromelalgia. E. A. Chill.
43 Blood Contamination in Organismal Diseases. S. J. Ross.
44 Acute Pyelonephritis of Unusual Severity. S. Kent.

Archives Générales de Chirurgie, Paris

November, IV, No. 11, pp. 1101-1210

45 Cervical Ribs and Their Complications. Report of Five Cases. (Les côtes cervicales.) R. Frœlich.

Archives Internationales de Chirurgie, Ghent

V, No. 1, pp. 1-116

46 Experimental Cancer Research. (Recherches expérimentales sur le cancer.) F. Fichera.

Archives des Maladies du Cœur, etc., Paris

December, III, No. 12, pp. 705-787

47 Embryologic Study of Interauricular Defect. (Coexistence d'une communication interauriculaire et d'une anomalie de la valvule de Thébésius.) C. Lesieur, J. Froment and R. Crémieu.
48 Hemolytic Jaundice. (Ictère hémolytique acquis général et purpura, avec ictère hémolytique local, au cours d'une infection indéterminée.) H. Gougerot and H. Salin.

Bulletin de l'Académie de Médecine, Paris

November 29, LXXIV, No. 38, pp. 359-402

49 *Angina Pectoris. (Le repos au lit et les crises hypertensives dans l'angine de poitrine organique.) C. Fiessinger.

49. **Angina Pectoris.**—Fiessinger emphasizes the importance of rest in bed as the most effective measure in treatment of angina pectoris. It acts by reducing the arterial tension, while it is a tonic for the heart and reduces its excitability. In order to have the maximum effect, the patient should be kept in bed for from two weeks to two months, the diet being restricted at first to water and milk, gruels, etc., being gradually allowed. The rest in bed should be supplemented with the usual drugs. Nothing can compare in efficacy, he says, with simple rest in bed; the benefit is most apparent in the elderly and those inclined to corpulence who fall off a little in weight. Patients may be classed as (1) those whose arterial tension during the pain keeps normal or below—repose does not modify it; (2) those in whom the tension is high and is not influenced by repose—this is very rare; (3) those in whom the high arterial tension subsides under the influence of the rest in bed—this is the rule in two-thirds of all the cases; (4) those in whom the tension does not subside, but even increases during repose, although the pain does not increase. Among twenty patients from 45 to 73 years old with angina pectoris, he found three with normal or low arterial tension. The tension was unmodified by repose in three other cases, but the pains subsided, showing that the tension was not the cause of the pains during effort. In eleven other cases the rest in bed reduced the arterial tension at once. One patient was a man of 64 with maximal tension of 28 (Pachon) during an attack. Under bed rest, ice to the heart, restriction of his food to water and milk and three injections of 2 mg. of morphin, the tension dropped to 19 and the patient felt like a new man. Another patient had long been having attacks of angina pectoris at the slightest effort. A course of rest in bed and restriction to a milk diet, with a loss of about 14 pounds in weight, restored normal conditions to such an extent that he has been in good health during the eight years since to date, with no recurrence of the angina pectoris. Coronary lesions are not encountered in every case; the aorta or the myocardium may be involved rather than the coronaries. Bed rest is least effectual, Fiessinger adds, in case of concomitant aortic insufficiency.

Lyon Médical, Lyons

November 27, CXV, No. 48, pp. 885-924

50 Should We Fight Fever? (La fièvre est-elle curative?) R. Lépine.
51 *Inheritance of Tuberculosis. Piéry.

December 4, No. 49, pp. 925-980

52 *Fixation Abscess in Treatment of Bronchopneumonia in Infants. Montagnon.
53 Facial Paralysis Symptomatic of Lesions in Pons. L. Bériel.

51. **Inheritance of Tuberculosis.**—Piéry concludes from his study of the inheritance and spread of tuberculosis that the offspring of tuberculous parents are peculiarly liable to tuberculosis, and that the inflammatory tuberculosis (Poncet) should be included in estimating the tuberculosis in the parents. Contagion alone is insufficient, he declares, to explain the great variety in the manifestations of tuberculosis in tuberculous families. The so-called inherited predisposition and prepared soil are generally the result of actual existing infection. The assumption of a tardy hereditary tuberculosis seems to harmonize best to date with the clinical facts observed.

52. **Fixation Abscess for Infants.**—Montagnon reviews the literature on Fochier's turpentine fixation abscess, and states that he has applied this method in treatment of twenty-six children from 4 months to 5 years old. He used .33 c.c. (5 or 6 minims) of turpentine for the purpose in infants under a year old, and 0.5 c.c. (8 minims) in infants from 1 to 5. He finds it most convenient to inject the turpentine in the abdominal wall on a level with and about three fingerbreadths to the left of the umbilicus. An abscess forms and is evacuated about the seventh day; healing is generally complete by the end of the second week. The abscess is not only curative, he asserts, but serves as a valuable index of the child's reacting powers. If there is little or no suppuration, the prognosis is grave. In every case in his experience in which there was no febrile reaction to the injection of the turpentine, the bronchopneumonia proved to be of a tuberculous nature. If in bronchopneumonia the fever persists high and the child still has difficulty in breathing after mustard baths and inhalation of oxygen, he applies the turpentine on the third or fourth day of the disease. The only deaths among the children were in the three tuberculous cases, while the disease had been exceptionally severe in ten of the children who recovered. He gives the curves of several typical cases, illustrating the favorable influence of the fixation abscess.

Obstétrique, Paris

November, III N. S., No. 11, pp. 889-1000

54 *Vaginal Cesarean Section. A. Dührssen.
55 *Rapid Delivery with Undilated Os. E. Hauch.

54. **Vaginal Cesarean Section.**—Dührssen here presents a summary of his arguments for and his experiences with vaginal Cesarean section, or, as he specifically terms his method, metreurynter hysterotomy, and delivery *à la Buddha.* No fatality is known for which the operation was responsible in his forty-two cases nor in Seitz' seventy operations of the kind.

55. **Rapid Delivery with Undilated Os.**—Hauch states that the patients had to be delivered without delay in 212 cases out of 22,000 lying-in cases at the Copenhagen maternity, and he reviews 500 similar cases from other maternities, discussing indications, methods and outcome for mother and child. The tabulated findings afford opportunity for comparison of the various technics. Vaginal Cesarean section requires institutional environment, he says, and, lacking this, instrumental dilatation is the only resource if manual dilatation and the hystereurynter are inapplicable. Instrumental dilatation is liable to induce hemorrhage, but in the cases reported it never proved serious. There is liability to rupture and the consequences of the rupture may give trouble later in a small number of cases. The result for the children is not very good, but the fetus must be already suffering from the effects of the mother's condition for which the urgent delivery is required. In any event, Hauch continues, the dangers from instrumental dilatation are not serious enough to restrict its application at need. The factors for success are the elasticity and suppleness of the tissues of the cervix, and it is difficult to estimate this beforehand. The danger is less the more the cervix gapes, but the danger increases with the size of the fetus. The position of the instrument must be carefully supervised during the entire course of the dilatation, and delivery must follow at once. It is better, he thinks, to do podalic version and deliver the fetus than to attempt a very difficult forceps extraction. Instrumental dilatation failed in 16 out of the 363 cases on record in which this method of

delivery was applied, but in most of the unsuccessful cases the pregnancy was not very far advanced and the cervix was less elastic than at term.

Presse Médicale, Paris

December 10, XVIII, No. 99, pp. 929-936

56 [illegible] llitic Arteries. A. Sézary.
57 [illegible] Reduce Length of Roentgen-Ray [illegible] de la pose en radiographie par les écrans renforçateurs.) A. Laquerrière and L. Delherm.
58 Liver with Floating Lobe. (Le foie à "lobe flottant.") M. Letulle.

December 14, No. 100, pp. 937-944

59 *Streptococcus Peritonitis. L. Boidin and L. Douay.
60 Abram's Method for Percussion of Heart. A. Abrams (San Francisco).

59. **Streptococcus Peritonitis.**—The special features of the case reported were the sudden onset in a girl of 18 of a peritoneal syndrome with diarrhea, semicomatous prostration, suggesting appendicitis at first and later tuberculous peritonitis. Contrary to the usual fatal course of streptococcus peritonitis, an operation nearly a month after the first symptoms was followed by recovery, notwithstanding that the pus filled nearly the entire abdominal cavity, and that there were pulmonary symptoms for a week or so—crepitant râles and mucopurulent sputum, with numerous pneumococci. Only streptococci and colon bacilli could be cultivated from the abdominal pus.

Berliner klinische Wochenschrift

December 5, XLVII, No. 49, pp. 2225-2276

61 *Intravenous Salvarsan Treatment in Syphilis. A. Géronne.
62 Indications for Artificial Interruption of Pregnancy. (Indicationen zur künstlichen Unterbrechung der Schwangerschaft.) S. Hammerschlag.
63 Hysteropexy and Pregnancy. S. Sollerl.
64 Symptomatic Myotonic Disturbances with Inflammation in Muscles. M. Salzberger.
65 Pathologic Urinary Pigment. (Neuer pathologische Harnfarbstoff.) F. Lehmann and W. Zinn.
66 Pathologic Ferment Activity. (Pathologische Fermentwirkung.) J. Wohlgemuth. Commenced in No. 48.
67 Medicolegal Aspect of Dazed Conditions. (Forensische Beurteilung der Dämmerzustände.) E. Forster.

61. **Salvarsan in Syphilis.**—Géronne thinks that the intravenous route is the most reliable. The Wassermann reaction became negative in only fifty-seven out of 124 patients examined repeatedly after treatment with salvarsan. One patient in the primary stage gave a negative reaction soon after the injection, but it became positive again six months later, although no secondary symptoms had developed in the interim. In eighteen other primary cases recurrence has been observed since in five, but all the symptoms seem to have permanently subsided since a second injection. He has given salvarsan in 350 cases of syphilis, making about 500 injections in all, and the only toxic phenomena witnessed were slight transient by-effects in a few cases after intravenous injection of the drug. A toxic exanthem developed eight days after the injection in one case, but it was not accompanied by malaise. He intends hereafter to give the drug in intermittent intravenous injection of medium doses, that is, repeating the injection after four or five weeks, especially in the patients with persisting positive Wassermann reaction.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

November 26, XIII, No. 21, pp. 801-848

68 *Tetany from the Surgical Standpoint. K. Wirth. Commenced in No. 20.
69 Radiotherapy and Electrotherapy of Carcinoma and Palliative Operations. E. Venus. Commenced in No. 6.

68. **Tetany.**—Wirth discusses tetany from the standpoint of operative treatment, and tabulates the details of the twenty-one cases of gastric tetany in which an operation was done. The consequences were seventeen complete cures and one material improvement; three of the patients succumbed, notwithstanding the operation. This is a mortality of 15 per cent., while the mortality was from 71 to 77 per cent. and over in Loeb's and Albu's recent compilations of cases in which reliance was on internal measures alone. Wirth advocates operating without further delay when the dilatation of the stomach is due to organic changes; extreme stenosis of the pylorus is frequently accompanied by tetany. A gastroenterostomy puts an end at once to the stagnation of the ingesta, with the consequent irritation of the vagus, entailing continuous hypersecretion, and thus does away with the irritation liable to start the tetany. The moment that the patient begins to lose weight and the amount of urine diminishes, notwithstanding appropriate dieting, bed rest and internal measures, such as lavage of the stomach, a course of bismuth and infusion of fluid by the rectum or subcutaneously, the obstruction preventing the normal emptying of the stomach should be removed or a new passage provided. The slightest indication of tetany at this time is an urgent indication for prompt operative interference. Any delay increases the intoxication of the whole system and magnifies the risks of operation. An operation after the tetany has long been installed with other signs of serious intoxication—delirium, stupor, acetonuria and albuminuria—has far less prospect of success. Fleiner warns against attempting to operate in such conditions, but Albu advises operating in every case unless the condition of the heart, liver or kidneys, apart from the tetany, contra-indicates any intervention. The early operation—prophylactic gastro-enterostomy—gives the best chances. In Warbasse's case a simple gastrostomy answered the purpose. Wirth discusses further the few cases on record in which the tetany developed in connection with some minor surgical measure, in two cases from tapping the abdominal wall with the percussion hammer. The patients in both cases had long suffered from dilatation of the stomach. In another case the tetany came on after introduction of the stomach tube to relieve dilatation. The tetany proved fatal in these patients, a woman of 44 and two men, aged 42 and 64, respectively. In another case a woman of 28 developed tetany after puncture of the abdomen for ascites, but recovered: a man of 35 also developed tetany following puncture for ascites, but existing peritonitis and a pancreatic cyst may have been responsible for the fatality in this case. A number of cases are on record in which tetany came on after injection of some drug or glandular extract or stovain spinal anesthesia (Curschmann). In another case the tetany developed from the pressure of a traumatic retroperitoneal hematoma. Tetany accompanying gall-stones has been observed in a few cases, and also following acute suppuration in the thyroid. Several authors have reported tetany complicating exophthalmic goiter; Wiebrecht found that improvement followed parathyroid treatment in his case of this kind. Narbut has reported the case of a young soldier with tetany resisting all other measures until 50 c.c. of spinal fluid under high pressure was released by spinal puncture. In Levi's case the tetany developed in a young artisan after venesection. Further research will determine whether operative treatment of tetany should be supplemented by administration of parathyroid extract or tissue, internally or by implantation. This might be considered especially in the cases in which marasmus, atrophy or cicatricial tissue suggests the possibility of permanent pathologic changes in the parathyroids.

Deutsche medizinische Wochenschrift, Berlin

December 15, XXXVI, No. 50, pp. 2321-2368

70 *Robert Koch. (Gedächtnisrede.) G. Gaffky.
71 Pneumonia. (Pathologie und Therapie der Lungenentzündung.) C. Hirsch.
72 Salvarsan in Syphilis. (Behandlung der Syphilis mit Arsenobenzol, bes. die Dauerwirkung des Präparates und die Methoden seiner Anwendung.) W. W. Scholtz, Salzberger and Beck.
73 Salvarsan in Syphilitic Eye Disease. (Arsenobenzol gegen syphilitische Augenleiden. II.) E. v. Gross.
74 *Epiphanin Reac[illegible] llis. G. Seiffert.
75 Pregnancy and [illegible]
76 Derivatives of [illegible] of Tuberculous Fistulas. (Behandlung tuberkulöser Fisteln mit Zimtsäureallylester, nebst Bemerkungen über die Hetolbehandlung und einen neuen Gesichtspunkt in der Tuberkulintherapie.) E. Blos and K. Kronstein.
77 Double Extension for Fractures. A. Heermann.
78 Geographic Tongue, Hereditary and Familial. (Ist die Landkartenzunge erblich?) W. Lublinski.

70. See Berlin Letter, January 14, page 161.

74. **Epiphanin Reaction in Serodiagnosis of Syphilis.**—Seiffert has modified somewhat Weichardt's original technic for this serologic test. It is based on the same principle as Ascoli's meiostagmin reaction, namely, the change in the composition or drop-forming properties of the blood-serum under the influence of antibodies generated in the course of disease. In the serum from seventy-five patients the epiphanin reaction par-

alleled the Wassermann reaction in sixty-four, both being positive in forty-three and negative in twenty-one cases. In eleven cases in which the Wassermann reaction was negative, the epiphanin test gave positive findings in nine, and there were clinical signs of syphilis in all. The results of the epiphanin test were constantly negative in patients with non-syphilitic affections, including twelve typhoid, two paratyphoid, eight tuberculous and two scarlet fever patients. Seiffert's technic for the test is based on the change of tint of a phenolphthalein solution, while the meiostagmin reaction is estimated by the stalagmometer. Weichardt uses the diffusiometer. Seiffert adds a drop of an alcoholic solution of phenolphthalein to the mixture of syphilitic serum and extract of a syphilitic organ: 0.1 c.c. of a 10 per cent. solution of the serum in physiologic salt solution is mixed with 0.1 c.c. of an alcoholic extract of a syphilitic fetal liver. To this is slowly added 1 c.c. of decinormal sulphuric acid and 1 c.c. of a solution of barium hydroxid of the exact concentration needed to neutralize the sulphuric acid solution. On the addition of the drop of the stain, the fluid turns red when the serum is from a syphilitic, while there is no change in tint with non-syphilitic serum.

Medizinische Klinik, Berlin

December 11, VI, No. 50, pp. 1965-2004

79 Psychology Applied in Gynecology. (Einiges über die Verwertung von Psychologie in der Frauenheilkunde.) H. Sellheim.
80 *Transient Disturbance in Vestibular Nerve After Salvarsan. (Ueber transitorische Fasererkrankung des Nervus vestibularis bei mit Ehrlich-Hata 606 behandelten Kranken.) O. Beck.
81 Salvarsan in Treatment of Tertiary Syphilis. (Zur Behandlung der tertiären Syphilis mit Ehrlich's Arsenobenzol.) J. Fabry.
82 Salvarsan in Syphilis. (Erfahrungen mit Ehrlich 606 bei subkutaner und intramuskulärar Anwendung.) R. Ledermann.
83 Electricity in Tabes. F. Walzer.
84 Case of Landry's Paralysis. Wadsack. Commenced in No. 49.
85 Cancer Extract in Experimental Sarcoma. (Ueber Heilungsversuche bei einem Rattensarkom.) F. Blumenthal.

80. Transient Disturbance in Vestibular Nerve Under Salvarsan.—Beck has encountered four cases in which an isolated disturbance in the vestibular branch of the auditory nerve became evident after injection of salvarsan on account of syphilis. The features of the disturbance, in three cases at least, indicated, he thinks, that it was a phenomenon forming part of the Herxheimer reaction. It persisted longer than the skin manifestations, but subsided by the end of two weeks at most in every case. The hyperemia and serous imbibition of the nerve in the reaction caused the trouble on account of the peculiarly narrow channel in the bone in which these nerve fibers run. The possibility of a vestibular disturbance of the kind should be borne in mind in administering salvarsan to patients with existing ear trouble.

Münchener medizinische Wochenschrift

December 6, LVII, No. 49, pp. 2561-2616

86 *Sacral Anesthesia in Gynecology and Obstetrics. H. Schlimpert and K. Schneider.
87 Physiologic Puerperal Bradycardia. A. Hamm.
88 Healthy Dysentery Bacillus-Carriers. (Zur Bekämpfung gesunder Ausscheider von Dysenteriebazillen.) O. Mayer.
89 *Postdiphtheritic Paralysis and Repeated Diphtheria. C. Kayser.
90 Toxic Action of Sugar After Feeding with "Albumin Milk." (Ueber toxische Zuckerwirkung nach Eiweissmilchernährung). J. Braumüller.
91 The Physiologic Rôle of the Calcium Salts. O. Loew.
92 Urobilin in the Blood. W. Hildebrandt.
93 Practical Application of Wassermann Reaction, Especially in Stern's Modification. F. Hayn and A. Schmitt.
94 Reacting Power of the Organism and Treatment of Syphilis. H. Hecht.
95 Salvarsan in Syphilitic Eye Disease. (Ehrlich-Hata bei luetischen Augenerkrankungen.) C. Hirsch.
96 Salvarsan in Syphilis. D. Montesanto (Athens).
97 *Treatment of Ankylosis of the Knee. (Behandlung der Knieversteifung.) T. Müller.
98 Chloroform-Oxygen General Anesthesia. H. Ziegner.
99 Diseases in Japan Caused by Animal Parasites. Y. Tanaka.

86. Sacral Anesthesia in Gynecology and Obstetrics.—Recent modifications of the epidural technic have improved this method of anesthesia so that Schlimpert and Schneider commend it as an excellent means to control labor pains and for surgical anesthesia in operations on the genital and anal regions. It seems to be harmless, but the technic is difficult to master in case of corpulent patients. They generally combined it with the scopolamin-morphin technic.

89. Postdiphtheritic Paralysis.—Kayser reports that three children in one family developed paralysis after diphtheria; the mother had diphtheria also during the same epidemic. It was learned further that the father had had paralysis after diphtheria at the age of 5. The four children in this family were accustomed to the use of alcohol. One of the children had had diphtheria before, several years before the present attack. Kayser discusses whether such cases of recurring diphtheria and recurring after-affections may not be regarded as an allergy reaction.

97. Treatment of Ankylosis of the Knee.—Müller has obtained good results by mobilizing the knee in profound anesthesia, then immobilizing it in extreme flexion for twenty-four hours, then suspending the knee in a sling during the day from a high crossbar in such a way that the leg below the knee hangs free and its weight helps to correct the ankylosis. At night the suspending sling is removed and the leg left free. There is nothing to interfere with massage of the leg. The article is illustrated.

Wiener klinische Wochenschrift, Vienna

December 15, XXIII, No. 50, pp. 1779-1830

100 *Cause of Cancer. (Die Ursache der Krebserkrankung.) A. Jaeger.
101 *Lead Poisoning. Pathologie und Frühdiagnose der Bleivergiftung.) M. Sternberg.
102 *Electric Accidents. (Electropathologica.) S. Jellinek.
103 Ineffectual Action of Preparations of Tubercle Bacilli Administered by the Mouth. T. Pfeiffer and J. Leyacker.
104 Salvarsan in Private Practice. (Zur Anwendung des Arsenobenzols in der Privatpraxis.) E. Glass.

100. Cause of Cancer.—Jaeger declares that it is high time to give up all claims that cancer can ever be of infectious origin and contagious. Everything speaks against this assumption, he asserts, and presents arguments to prove that cancer is a disease of the intracellular metabolism.

101. Early Diagnosis of Lead Poisoning.—Elimination of lead in urine or stool and the blue line on the gums are the most important and obvious signs of lead poisoning, but others are the peculiar worried expression or a drawn smile, anemia, slight tendency to jaundice, dyspepsia, hematoporphyrin in the urine, punctate red corpuscles, alimentary dextrosuria and levulosuria, increased blood-pressure and exaggerated tendon reflexes.

102. Electric Accidents.—Jellinek reports a case of suicide from electricity, and a case in which the victim of an electric accident was able to rescue himself. The man was standing on a ladder working at an electric wire carrying a weak current; near his feet ran the wire of the trolley-car service. He was mounting two brass tubes, when one, bent at a right angle, hit the live wire below and the street current of 540 volts passed through this tube in his right hand to the other tube in his left hand. Notwithstanding the intense contracture and spasms induced in his hands and arms, he succeeded in bringing the two metal tubes into contact, thus short-circuiting the currents through the tubes; he escaped with scarcely any injury except the burns where the metal tubes were partially fused by the current. The characteristic injury on the hands was an irregular circular defect, about half an inch in diameter, extending into the subcutis, of a grayish-white to yellow color, the edges of the wound were raised and were hard and tough to the touch, without any relative redness around and were non-sensitive. Especially characteristic was the button-like, shallow, hard elevation of epidermis on the right thumb with a shallow hollow in the center, and dirty brown in color. It was non-sensitive even to needle pricks, but the sense of touch was retained. The forensic importance of such injuries is shown by a recent case of sudden death in which the discovery of a similar lesion first suggested that the man had been the victim of an electric accident, further investigation confirming the correctness of this assertion. It is the first case on record, Jellinek believes, in which the cause of death was revealed by this means. In the case reported, neither the heart nor respiration seemed to be affected by the current; the man screamed for help but was not heard on account of noises around. In a suicide case a young farm-hand gambled away all of his savings one night and wrote a letter of farewell to his father and fiancée. He then tied a weight in a handkerchief, fastened a long wire to the handkerchief, and holding the wire in one hand must have thrown the weight with the other hand over the trolley wire carrying 20,000 volts, as he was found lying dead in the road still holding the wire. Jellinek also mentions a case in which a man wrapped up his hand and then touched with it a live wire to induce injuries entitling him to "workmen's compensation."

Zentralblatt für Chirurgie, Leipsic

December 3, XXXVII, No. 49, pp. 1545-1576

105 Long Clamp for Hemostasis in Trephining. M. Makkas.
106 *Bloodless Operations on the Liver. (Blutlose Leberoperationen.) A. Baron.
107 Toxic Action from Scarlet-Red Salve. S. Gurbski.

December 10, No. 50, pp. 1577-1600

108 *Diagnosis of Injury of Spleen. (Zur Diagnose der Milzverletzungen.) L. Levy.
109 Shutting Off Part of Circulation as Aid in General Anesthesia. (Die Extremitätenstauung, eine einfache Methode zur Blut- und Chloroformersparnis bei Operationen an anderen Körperstellen.) H. Hans.

December 17, No. 51, pp. 1601-1632

110 Acute Hemorrhagic Pancreatitis Induced by Experimental Stasis in Pancreatic Duct. H. Seidel.
111 Roentgen-Ray Diagnosis of Renal Tuberculosis. (Nierentuberkulose im Röntgenbilde.) A. Hofmann.

106. **Bloodless Operations on the Liver.**—Baron found it possible to operate on dogs without any loss of blood by the technic which he describes. He first clamps the portal vein, hepatic artery and common bile duct with a clamp with soft blades. the liver is then drained toward the heart until free of blood, and the desired operation can be done on it without loss of blood. He then seizes arteries, veins and bile ducts with clamps, draws them out and ligates them. Examination of the parts at various intervals afterward, up to three months, failed to reveal any gross or microscopic injury from the compression. Air embolism and after-hemorrhage were not observed in any case. The blades of the clamp are slipped in rubber tubing, and the hepatoduodenal ligament is clamped as the first step in the operation. He thus resected more or less of the liver in ten dogs and no signs of peritonitis, thrombosis or after-hemorrhages were observed in any instance. The method is particularly useful, he believes, in case of injury of the liver. The clamp can be applied as soon as the abdomen is opened; there is no further bleeding. This method is also promising for operations on the gall-bladder or malignant disease, and it would also much facilitate anastomosis between the liver and bile duct. The conditions in regard to the blood-supply in the dog are similar to those in man, so that he is confident that the procedure will be found serviceable in the clinic.

108. **Diagnosis of Injury of the Spleen.**—Levy calls attention to the sharp pains in the shoulder region which differentiated the injury of the spleen in the case of abdominal contusion reported. The area of dulness over the spleen was not enlarged but the pains in the shoulder region confirmed the assumption that the spleen had been injured; it was found lacerated at two points and was removed. The patient rapidly recovered and not long after passed successfully through an explosion with severe burns. The loss of the spleen did not interfere with recovery from this second injury; the bone marrow must have vicariously done the work of regeneration of red corpuscles after the severe burns.

Zentralblatt für Gynäkologie, Leipsic

December 3, XXXIV, No. 49, pp. 1585-1608

112 *Suggestion Anesthesia and Hypnosis. J. Kocks.
113 *Vaginal Cesarean Section in Russia. S. Rosenfeld.

December 10, No. 50, pp. 1609-1640

114 *Mammary Gland as Source of Eclampsia Toxin. (Die mammäre Theorie über Entstehung des Eklampsiegiftes.) H. Sellheim.
115 Direct Application of Heat to Interior of Uterus. (Thermische Uterussonde.) L. Seitz.
116 *General and Local Anesthesia in Gynecology. W. Losinsky.

December 17, No. 51, pp. 1641-1672

117 Immunization Against Puerperal Infection. E. v. Graff.
118 Two Cases of Repeated Extra-Uterine Pregnancy. M. Gerschun.
119 *Easy and Rapid Mechanical Reposition of Retroflexed Uterus. O. Goldberg.

112. **Suggested Anesthesia.**—Kocks does not hesitate to say that hypnosis is mostly humbug; the hypnotizer is self-deceived and also the public, he declares, and he gives a number of personal experiences to sustain this view. At the same time he has found that it is possible to tranquilize patients with a suggestion of anesthesia which is extremely useful. It does not prevent the experiencing of pain when sensitive tissues are incised or pulled, but it removes the dread and excitement. In some cases he makes use of the chloroform apparatus without any chloroform or ether; the mere sight of the apparatus and its being set to work quiets the pulse, but there is no hypnotic suggestion. He tells the patient that no pain will be felt or so little that it will be bearable; operative measures in the vagina and uterus seldom induce pain. In other cases he injects a few drops of a solution of phenol, which the patient thinks is cocain, and under this local anesthesia the operation can be tranquilly entered on and completed. A few drops of chloroform may reinforce the tranquilizing measures but he scoffs the idea of its being hypnotic suggestion.

113. **Vaginal Cesarean Section in Russia.**—Rosenfeld has found records of fifty-one cases in which vaginal Cesarean section has been done in Russia and adds to this number two cases from his own practice. The results were satisfactory. Anterior vaginal hysterotomy was the preferred method, and the operation was done for various indications, eclampsia, rupture, endometritis, placenta prævia and hemoptysis at the seventh month. Some of the authors did not hesitate to operate in this way during the first half of pregnancy, and for evacuation of the uterus after abortion with complications.

114. **Eclampsia Due to Intoxication from Mammary Gland.**—Sellheim discusses various facts in relation to eclampsia which seem to sustain the assumption that the mammary gland may be the source of the intoxication, and relates the details of three cases in which he operated in accordance with this view. In the first case severe eclampsia persisted long after the uterus had been emptied. None of the usual measures having any influence on the convulsions, he then injected potassium iodid directly into the breast tissue. Immediately a change for the better was apparent, and the patient rapidly recovered. In a more recent case a robust primipara was unconscious when first seen, numerous convulsions preceding and following extraction of a dead seven-months' fetus by vaginal Cesarean section. Every hour or so afterward severe convulsions followed, growing constantly worse, the coma becoming deeper, the pulse 160 and weak, the cyanosis more pronounced. Sellheim then injected potassium iodid into the breast, pushing the needle deep into the gland tissue, pointing it in different directions, and pumping with a bulb until 1,000 c.c. of a 0.9 per cent. salt solution containing 1.5 gm. of potassium iodid had been thus injected. The injection took about fifteen or twenty minutes. As he then looked again into the patient's face he saw a decided change for the better, the tint was less livid and it rapidly grew more natural while the pulse became stronger. An hour later the patient sweat profusely; the same amount of the iodid solution was injected again into the breast four hours later and again after another four hours. The urine had been bloody and contained large amounts of albumin before the first injection of potassium iodid, but it soon became normal in tint, with only 1 per 1,000 albumin by the end of twenty-four hours, and recovery was soon complete. In a third case a primipara of 24 developed severe eclampsia six hours after normal delivery, and Sellheim excised the mammary gland on both sides through a curving incision below each breast. He gives the pulse and other curves in this case to show the immediate turn for the better that followed. Subcutaneous excision of mammary-gland tissue is a far simpler operation than forcible delivery and decapsulation of the kidneys, and in desperate cases, in which no other organ can be incriminated, he is confident that this operation may prove of supreme importance.

116. **Anesthesia in Gynecology.**—Lobinsky concludes from the experience at Kiev that local anesthesia by the infiltration method is the best for plastic operations on the perineum and

vagina, and that epinephrin should be used only in the smallest amounts and weakest concentration in operations on the female genitals.

119. **Reposition of Retroflexed Uterus.**—Goldberg introduces a Hodge pessary, pushing the broader end well up into the posterior vaginal vault; the smaller end of the pessary is then pushed farther back into the vagina. The displacement is corrected by this maneuver or it only requires a little further manipulation to restore the organ to its normal place. The reposition is the effect of the leverage from the pessary and the induced tension of the ligaments. He summarizes reports of twenty cases to show the efficiency of this simple method.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 1, XXXI, No. 144, pp. 1521-1528

120 Diagnostic Importance of Lipase in Urine. G. Tanfani.

December 4, No. 145, pp. 1529-1544

121 Hydrogen Dioxid in Hyperchlorhydria. (Il perossido d'idrogeno nell' ipercloridria.) P. Girardi.

December 6, No. 146, pp. 1545-1552

122 *Iodin Sterilization of the Skin. (Il metodo Grossich per la disinfezione della pelle.) C. Mantelli.

December 8, No. 147, pp. 1553-1560

123 Temporary Excessive Contraction of the Heart Just After Compensation is Complete. (Sulla ipersistole.) A. Bruno.

December 11, No. 148, pp. 1561-1576

124 Pathogenesis of Purpura Hemorrhagica. T. Di Guiseppe.

122. **Iodin Sterilization of Wounds and Field of Operation.**—Mantelli states that Grossich's technic has been applied in 700 aseptic operations at Bajardi's clinic in the last year, and the wounds have healed by primary intention without a single exception and without dermatitis in any instance. He reports bacteriologic research to determine the thoroughness of the sterilization that follows painting the region with tincture of iodin, the results being convincing in the extreme.

Policlinico, Rome

November 27, XVII, No. 48, pp. 1507-1538

125 *Tuberculin Skin Reaction in Syphilis and in Metasyphilitic Disease. F. Costantini.

December 4, No. 49, pp. 1539-1570

126 *Latent Malaria. G. Ianni.

December 11, No. 50, pp. 1571-1602

127 *Castration and Thyroidectomy. T. Silvestri.
128 Subcutaneous Injection of Phenol in Tetanus. (Il metodo Baccelli sulla cura del tetano.) A. Bellussi.
129 Prevention of Spread of Venereal Disease. V. E. Ovazza.

125. **Local Tuberculin Reactions in Syphilis.**—Costantini obtained a positive response in all but three out of forty-seven syphilitics tested with the intradermal technic according to Mantoux, and the Wassermann reaction paralleled the positive skin findings. In twelve patients with paralytic dementia both findings were also positive in 76 per cent. He comments that these local tuberculin reactions cannot be utilized for differentiation of syphilis and tuberculosis, but that, if tuberculosis can be excluded, positive findings are strong presumptive evidence in favor of syphilis.

126. **Healthy Malaria-Parasite Carriers.**—Ianni has examined the blood of over 2,000 transient or permanent inhabitants of endemic foci of malaria, and found the malaria plasmodia in the blood of fifty-three out of 146 persons free from the slightest indication of malarial disease. This large percentage of healthy carriers he thinks is extremely important from the standpoint of general prophylaxis of malaria. When no parasites were found in the peripheral blood, he gave a single therapeutic dose of strychnin, and found that in from thirty to sixty minutes the parasites ensconced in internal organs were driven out by the action of the drug and could then be discovered in the peripheral blood. Not until the findings were constantly negative after this test was the individual regarded as free from the germs.

127. **Castration Plus Thyroidectomy.**—Silvestri found that young rabbits, dogs and guinea-pigs and the male adult animals after castration reacted to removal of the thyroid and parathyroids the same as normal animals, but female adult animals after castration seemed to bear without injury the removal of the thyroid and parathyroids. The appetite remained good and there were no signs of disturbance from the loss of the glands, except possibly an increase in weight. The age and sex seem to determine the outcome.

Riforma Medica, Naples

November 21, XXV, No. 47, pp. 1289-1316

130 *Is Kala-Azar Transmitted by Inoculation? (Intorno al kala-azar.) U. Gabbi.
131 Peptone in the Urine. (Indagine chimico-fisica del peptone nell'urina.) G. Moscati.

November 28, No. 48, pp. 1317-1344

132 Gastric Motor Disturbances. (Gastropatie dinamiche ed organiche. XIII.) G. Rummo.
133 Action of Quinin on the Autolysis of Spleen and Liver. G. Moscati.
134 Plastic Operation with Cremaster Muscle in Treatment of Inguinal Hernia. O. Marchetti.

December 5, No. 49, pp. 1345-1372

135 Albumosuria in Albuminuria. L. Marenduzzo.
136 Research on Absorption from Gall-Bladder. (Sulla permeabilita della cistifellea.) G. Moscati.
137 Graphic Registration of Action of Left Auricle. (La grafica dell' atrio sinistro: il suo significato e la sua importanza diagnostica.) W. Janowski.

130. **Kala-Azar.**—Gabbi has encountered twenty more cases this year and others fifty more, the patients being all children in southern Italy. He believes that if the disease were always recognized it would be found that several hundreds die annually from it in southern Italy and Sicily. It is almost invariably fatal, and he believes that it is inoculable, for reasons which he cites, and that the bedbug is probably the intermediate host, not the dog as Nicolle has recently stated. The disease seems to occur in the spring; only one case is on record as late as August and only one as early as February. Recently he called attention to the difference between the febrile and the afebrile forms of infectious splenic anemia in children and ventured the assertion that the former was true kala-azar. It seems to be invariably restricted to the families of the working classes while the afebrile form is encountered among the well-to-do. Puncture of the spleen or bone marrow is the only means to reveal the parasites, the Leishman bodies, causing the syndrome, which in many respects resembles chronic wasting malarial fever.

Hygiea, Stockholm

November, LXXII, No. 11, pp. 1169-1296

138 History of Inoculation Against Small-Pox. (Ur koppympningens historia.) V. Djurberg.
139 Combination of Albuminous Substances in the Blood with Iodin After Administration of a New Iodin Preparation, a Derivative of Tannic Acid. C. J. Enebuscke (New York).
140 Chemical Study of Swedish Oil of Pine. (Bidrag till kännedomen om svensk tallbarrsolja.) T. Ekecrantz.

Norsk Magazin for Lægevidenskaben, Christiania

December, LXXI, No. 12, pp. 1267-1378

141 *Foreign Bodies in the Esophagus. (Om fremmedlegemer i øsofagus og deres behandling.) V. Uchermann.
142 *Hemolytic Jaundice. (Hæmolytisk ikterus.) G. A. Haus.
143 *Old Primiparæ. (Om ældre Istegangfødende.) T. Hesselberg.
144 Ten Years' Experience with Sanatorium Treatment of Pulmonary Tuberculosis. (En tiaarsstatistik fra Reknes sanatorium for tuberkuløse.) I. F. Lorentzen.

141. **Foreign Bodies in the Esophagus.**—Uchermann has had a few patients die from this cause in his service at Christiania, and discusses some of the lessons learned from this experience. Among them is the necessity for examining the opposite side of the esophagus when the foreign body is removed from without. When it is large and has been impacted for some time the tissues are likely to be injured all around, and especially at both ends of the foreign body, so that the perforation may be double and infection may occur from the side opposite the incision. It is sometimes wise to open into the esophagus from the opposite side to explore the other side; he found this of great advantage in one case which certainly would have terminated fatally without it. The first point to be ascertained is the nature of the foreign body that has been swallowed, whether it has smooth or sharp edges. In one case the family related that the child had swallowed a cloth-covered button from her father's underdrawers, and as there was not much disturbance, and the child was able to swallow fluid food and did not seem much incommoded, while the Roentgen picture showed the button lodged not far down, several days were allowed to elapse while a suitable button-

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OCCLUSION OF LARGE SURGICAL ARTERIES WITH REMOVABLE METALLIC BANDS TO TEST THE EFFICIENCY OF THE COLLATERAL CIRCULATION

EXPERIMENTAL AND CLINICAL OBSERVATIONS *

RUDOLPH MATAS, M.D.
AND
CARROLL W. ALLEN, M.D.
NEW ORLEANS

The chief object of this inquiry has been to determine whether the large arteries can be occluded long enough to make it possible to observe the effect of the arrested circulation in the territory supplied by the occluded vessel, without irreparably damaging the artery during the period of observation. How long can an artery be occluded so as to arrest all flow of blood through its lumen without permanently obliterating it? What is the utmost limit of time that compression with a removable metallic band can be maintained before permanent damage, leading to thrombosis, occurs in the intima? What are the changes that occur in the vessel after occlusion has been maintained for a certain number of hours, or days, at the time of the constriction and after constriction has been removed?

The importance of testing the efficiency of the collateral circulation before permanently obstructing or obliterating an important surgical tract in regions where permanent occlusion of the main regional trunk may be followed by disastrous consequences (such as the carotid, subclavian, innominate, iliac, aorta, etc.), was the chief incentive to this investigation. Hence the term "prophylactic" or "test" occlusion of arteries, may be given appropriately to this procedure.

The steadily widening field of the surgical treatment of malignant disease and the growing importance of testing the efficiency of the collateral circulation in the treatment of aneurysm and other vascular lesions, has led one of us (Dr. Matas) for several years to experiment clinically with methods that would afford the much-needed information in determining the efficiency of the collateral circulation. In connection with this subject the work of W. S. Halsted, Stratton of Oakland, Cal., Crile, Jordan of Heidelberg, Doberauer, Saiger and Riess, but especially of Halsted, with his characteristically thorough and ingenious experiments in the partial and progressive occlusion of the arteries, with rolled metallic bands, are most stimulating and suggestive. In addition to our prime object, which was to devise a satisfactory means of testing the efficiency of the collateral circulation, we have been especially concerned *with the kind of material best suited for the* compression of the arteries, combining the features of tissue tolerance, facility of application, ease of removal, with a minimum of trauma to the artery. To this end a series of experiments on dogs was undertaken in the laboratory of operative surgery of the Tulane University. In the first series, 1908 and 1909, 168 experiments were performed on forty-two dogs, but of these only forty-three experiments were available, on account of infections, deaths and escape of animals. These forty-three experiments, involving the carotid and femoral arteries, may be grouped as follows: In seven the artery was occluded one day; in seven the artery was occluded two days; in fourteen, three days; in eight, four days; in four, five days; in three, six days. In twenty-two of these cases the vessel and clamp were excised together at the expiration of the stated period of observation; in twenty-one, the clamp alone was removed, the vessel remaining *in situ*, to be taken out subsequently. After the removal of the vessels, the gross changes presented by the artery were noted and photographs made showing the site of the occlusion. A series of sixteen additional experiments were undertaken (Dr. Allen), Nov. 21, 1909, to May 6, 1910, for purposes of histologic study. The carotid and femoral arteries of dogs, as in the previous series, were utilized for the work. Ten cases in which the band and vessel were removed together were as follows: One, twelve hours; one, thirty-six hours; three, forty-eight hours; three, seventy-two hours; one, 120 hours; one, 144 hours. Six in which the clamp was removed after the number of hours stated and the clamped section of the vessel was removed four to ten days later, were as follows: Two, twenty-four hours; one, forty-eight hours; three, seventy-two hours. The results obtained in the above sixteen cases confirm the conclusions reached in the first report, as previously announced by one of us (Dr. Matas) in a preliminary report submitted to the Society of Clinical Surgery, Rochester, Minn., November, 1909. In all, including the first and second series, fifty-nine available experiments were utilized in this research. A separate inquiry into the application of complete and partial occlusion to the thoracic and abdominal aorta by various methods, not described in this report, is now being carried out and will form the basis of a separate report when the investigation is completed.

Three forms of bands were used, all about as wide as one diameter of the vessel operated on; first, fine silver wire strands soldered together so as to constitute a flat surface of the thickness of the single wire; second, thin aluminum bands held around the vessel by clamping their free ends with soft lead clips; third, aluminum catcher was being made, with which the button was finally safely removed. But instead of being as described, the button was of another kind and had sharp edges which had burrowed into the walls and the child died of sepsis two days later. Another lesson learned from his experience is that the Roentgen-ray examination should be done by an expert; in one case the radiograph was said to show the foreign body in a bronchus, and tracheotomy and bronchoscopy followed at once but no trace of the foreign body could be found. Another radiograph showed the foreign body in the cecum. It had evidently been in the esophagus when first seen. The foreign body is liable to induce spasmodic contraction which renders dangerous any attempt at instrumental exploration. In two cases the patients succumbed to sepsis from perforation of the esophagus by the instrument used in the attempts at extraction, remote from the actual site of the foreign body.

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* Read in the Section on Surgery of the American Medical Association at the Sixty-first Annual Session, at St. Louis, June, 1910.

142. Hemolytic Jaundice.—Haus reports a typical case, the chronic jaundice continuing for three years till death. The findings suggest that this hemolytic form of jaundice should be classed with essential, possibly with pernicious anemia, as essentially a disease of the blood. He compares the clinical course and necropsy findings in his case with the few similar ones on record. His patient was a factory hand, 36 years old, whose sister and child had died from tuberculosis.

143. Elderly Primiparæ.—Hesselberg tabulates the age, duration of labor and other particulars of the first delivery of 200 women over 30, comparing them with an equal number of primiparæ under the age of 20. Twelve of the women were between 40 and 44. There was no mortality among the elderly parturients but there was a febrile morbidity of genital origin in 14.1 per cent., while the younger women under 20 had a febrile morbidity of genital origin in 20.6 per cent. The primary and secondary fetal mortality among the children amounted to 10.2 per cent., in the older and 4.8 per cent. with the young women. In 9.3 per cent. of the older women the uterus had to be evacuated by hand, while this was necessary in only 4.3 per cent. of the young women. Labor lasted for from twenty-one to twenty-nine hours in the older women and only fifteen hours in the younger.

Ugeskrift for Læger, Copenhagen

December 15, LXXII, No. 50, pp. 1569-1606

145 *Duodenal Ulcer. (Om Diagnosen og Behandlingen af det ikke-perforerede Duodenalsaar.) S. Kemp. Commenced in No. 49.

145. Diagnosis of Duodenal Ulcer.—In addition to the signs and symptoms generally emphasized, Kemp calls attention to the fact that in his ten operative cases gastric hypersecretion was a constant finding and in a degree seldom encountered under other conditions, not even with gastric ulcer. Hypersecretion therefore suggests either gastric or duodenal ulcer, and when excessive speaks strongly for the latter. Two of his patients vomited about a liter of extremely acid fluid from the fasting stomach and all but two had more or less fluid in the fasting stomach and generally considerable acidity. Gastric motor insufficiency was also the rule with duodenal ulcer in his experience; three of the patients had continuous retention, one considerable retention eight hours after an Ewald test meal, one after six hours and two after five hours. Three of his six patients without continuous retention had pylorospasm, and all those with continuous retention. Great variations in the amount of fluid found in the fasting stomach may be regarded as evidence of occasional transient pylorospasm. He has a record of pylorospasm in only three of his seventy patients with gastric ulcer, while it was manifest in seven of his ten patients with duodenal ulcer. Examination of the stomach functioning will often throw light on the dubious cases of duodenal ulcer. In regard to treatment, he says that the same principles apply as to gastric ulcer only that the hemorrhage from a duodenal ulcer may be harder to control. Medical measures should be the routine treatment; operative treatment should be instituted only when they fail. He operated on account of stenosis in two cases; for repeated, chronic bleeding in another, for results of pylorospasm in three and for recurrence of symptoms after an at first apparently successful course of medical treatment in three cases. With duodenal ulcer there is less danger of cancer later than with gastric ulcer; cancer of the duodenum seems to be extremely rare.

Upsala Läkareförenings Förhandlingar

N. S. XVI, Nos. 1-2, pp. 1-136.. Last indexed Nov. 12, 1910, p. 1772

146 *Râles After Tuberculin Injections Not Always Sign of Specific Focal Reaction. (Rassel efter tuberkulininjektion, som icke äro uttryck for specifik härdreaktion.) G. Bergmark.

147 Swedenborg as an Anatomist. (Om Emanuel Swedenborg som naturforskare och i synnerhet hjärnanatom.) M. Ramström.

148 Swedenborg's Conception of the Functioning of the Brain. (Hvarpå gründar sig Swedenborgs åskit om hjärnans funktion, och särskildt om hjärnbarken som själsverksamhetens säte?) M. Ramström.

146. Râles After Injection of Tuberculin Not Necessarily a Focal Reaction.—Bergmark applied the subcutaneous tuberculin test to a girl of 9 who had a small, old and evidently calcified apical tuberculous process, and a recent acute bronchopneumonia, involving the other apex; the rest of both lungs was apparently intact according to the Roentgen-ray findings. An intradermal injection of tuberculin induced a lively reaction and a subsequent subcutaneous injection of tuberculin was also followed by a still more intense reaction including a pronounced exanthem and enanthem in the mouth with conjunctivitis—all these developed some time before changes in the focus indicated a focal reaction. At the same time as the exanthem and enanthem developed, râles were evident in the lower part of the lungs, and Bergmark presents evidence and arguments to prove that these râles were part of the early enanthem reaction, and that they had nothing to do with the true focal reaction later.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. Report on an Outbreak of Typhoid Fever at Omaha, Neb. (1909-1910). By L. L. Lumsden. II. The Water Supply of Williamson, W. Va., and its Relation to an Epidemic of Typhoid Fever. By W. H. Frost. Hyg. Lab. Bull. 72, November, 1910, U. S. P. H. and M.-H. S. Paper. Pp. 94, with illustrations. Washington · Government Printing Office, 1910.

Medizinal-Berichte [illegible] Deutsch-Ostafrika, Kamerun [illegible] Guinea, Karolinen, Marshall- [illegible] 1909. Herausgegeben vom [illegible] marks. Pp 522. Berlin: Ernst S. Mittler und Sohn, Königliche Hofbuchhandlung, Kochstrasse 68. 1910.

Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 East 59th St.

Interne Klinik der bösartigen Neubildungen der Bauchorgane. Von Dr. Rudolf Schmidt, k. k. Primarazt am k. k. Kaiserin Elisabeth-Spital, Wien. Paper. Price, 14 marks. Pp. 355. Vienna: Urban und Schwarzenberg (American Publishers: Rebman Co., New York), 1911.

The Work of the Edward Sanatorium. An Institution for the Treatment of Incipient Pulmonary Tuberculosis. Jan. 15, 1907, to Sept 1, 1910. Including the Annual Report for 1909. Founded Jan. 15, 1907. Paper. Pp. 78, with illustrations. Naperville, Illinois.

Report of the Chief of the Bureau of Animal Industry for 1910. By A. D. Melvin. (From Annual Reports of the Department of Agriculture.) U. S. Department of Agriculture. Paper. Pp. 83. Washington: Government Printing Office, 1910.

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York, 1909-1910. By various authors. Cloth. Price, $2 net. Pp. 276, with 48 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Biennial Report of the Dairy and Food Commissioner of Wisconsin. For the Period Ending June 30, 1910. J. Q. Emery, Dairy and Food Commissioner, Madison, Wis. Cloth. Pp. 368, with illustrations. 1910.

University of Bombay Calendar for the Year 1910-1911. Cloth. Volume I, price, 3 rupees. Pp. 969. Volume II (Examination Papers of 1909-1910), price, 2 rupees. Pp. 342. Bombay, 1910

Constitution, By-Laws, Officers and List of Members of the Society of Alumni of Bellevue Hospital. 1910-1911. Cloth. Pp. 74. Dr. J. J. Nutt, Secretary, 2020 Broadway, New York.

Diätetik innerer Erkrankungen zum praktischen Gebrauche für Aerzte und Studierende. Von Dr. Theodor Brugsch. Paper. Price, 4.80 marks. Pp. 245. Berlin: Julius Springer, 1911.

Thirty-Second Annual Report of the Board of Health of the City of Lawrence, Mass. For the Year Ending Dec. 31, 1909. Paper. Pp. 64.

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OCCLUSION OF LARGE SURGICAL ARTERIES WITH REMOVABLE METALLIC BANDS TO TEST THE EFFICIENCY OF THE COLLATERAL CIRCULATION

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The chief object of this inquiry has been to determine whether the large arteries can be occluded long enough to make it possible to observe the effect of the arrested circulation in the territory supplied by the occluded vessel, without irreparably damaging the artery during the period of observation. How long can an artery be occluded so as to arrest all flow of blood through its lumen without permanently obliterating it? What is the utmost limit of time that compression with a removable metallic band can be maintained before permanent damage, leading to thrombosis, occurs in the intima? What are the changes that occur in the vessel after occlusion has been maintained for a certain number of hours, or days, at the time of the constriction and after constriction has been removed?

The importance of testing the efficiency of the collateral circulation before permanently obstructing or obliterating an important surgical tract in regions where permanent occlusion of the main regional trunk may be followed by disastrous consequences (such as the carotid, subclavian, innominate, iliac, aorta, etc.), was the chief incentive to this investigation. Hence the term "prophylactic" or "test" occlusion of arteries, may be given appropriately to this procedure.

The steadily widening field of the surgical treatment of malignant disease and the growing importance of testing the efficiency of the collateral circulation in the treatment of aneurysm and other vascular lesions, has led one of us (Dr. Matas) for several years to experiment clinically with methods that would afford the much-needed information in determining the efficiency of the collateral circulation. In connection with this subject the work of W. S. Halsted, Stratton of Oakland, Cal., Crile, Jordan of Heidelberg, Doberauer, Saiger and Riess, but especially of Halsted, with his characteristically thorough and ingenious experiments in the partial and progressive occlusion of the arteries, with rolled metallic bands, are most stimulating and suggestive. In addition to our prime object, which was to devise a satisfactory means of testing the efficiency of the collateral circulation, we have been especially concerned with the kind of material best suited for the compression of the arteries, combining the features of tissue tolerance, facility of application, ease of removal, with a minimum of trauma to the artery. To this end a series of experiments on dogs was undertaken in the laboratory of operative surgery of the Tulane University. In the first series, 1908 and 1909, 168 experiments were performed on forty-two dogs, but of these only forty-three experiments were available, on account of infections, deaths and escape of animals. These forty-three experiments, involving the carotid and femoral arteries, may be grouped as follows: In seven the artery was occluded one day; in seven the artery was occluded two days; in fourteen, three days; in eight, four days; in four, five days; in three, six days. In twenty-two of these cases the vessel and clamp were excised together at the expiration of the stated period of observation; in twenty-one, the clamp alone was removed, the vessel remaining *in situ*, to be taken out subsequently. After the removal of the vessels, the gross changes presented by the artery were noted and photographs made showing the site of the occlusion. A series of sixteen additional experiments were undertaken (Dr. Allen), Nov. 21, 1909, to May 6, 1910, for purposes of histologic study. The carotid and femoral arteries of dogs, as in the previous series, were utilized for the work. Ten cases in which the band and vessel were removed together were as follows: One, twelve hours; one, thirty-six hours; three, forty-eight hours; three, seventy-two hours; one, 120 hours; one, 144 hours. Six in which the clamp was removed after the number of hours stated and the clamped section of the vessel was removed four to ten days later, were as follows: Two, twenty-four hours; one, forty-eight hours; three, seventy-two hours. The results obtained in the above sixteen cases confirm the conclusions reached in the first report, as previously announced by one of us (Dr. Matas) in a preliminary report submitted to the Society of Clinical Surgery, Rochester, Minn., November, 1909. In all, including the first and second series, fifty-nine available experiments were utilized in this research. A separate inquiry into the application of complete and partial occlusion to the thoracic and abdominal aorta by various methods, not described in this report, is now being carried out and will form the basis of a separate report when the investigation is completed.

Three forms of bands were used, all about as wide as one diameter of the vessel operated on; first, fine silver wire strands soldered together so as to constitute a flat surface of the thickness of the single wire; second, thin aluminum bands held around the vessel by clamping their free ends with soft lead clips; third, aluminum bands, stout enough to maintain the desired degree of compression by simply pressing and molding them to the vessel. The silver bands which had been used on the human subjects (Dr. M.) before the experimental work began were soon discarded for the aluminum bands (No. 20, Brown & Sharp's sheet-metal gauge), which retained their hold on the artery without the aid of the lead clips.

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* Read in the Section on Surgery of the American Medical Association at the Sixty-first Annual Session, at St. Louis, June, 1910.

These bands are cut long enough to be used as aneurysm needles, bent and curved in the shape of a flat hook, which can be readily insinuated between the blood-vessel and its sheath; after the band has been carried around the circumference of the vessel, it is gently compressed by the fingers of the operator until the pulse on the distal side becomes imperceptible; the excess of band which remains is cut off with stout scissors, or preferably small wire clippers.

In placing the bands around the small arteries of the dog in attempting complete occlusion, it is very easy to crush them and set up traumatic changes not directly due to the use of the band. To avoid this, one end of the band is doubled on itself, arranged somewhat like a clothespin and the vessel slipped down between the opposing surfaces of the band, until the pulse can no longer be felt. The excess of band is then cut away; in this way danger of crushing by excessive force is reduced to a minimum.

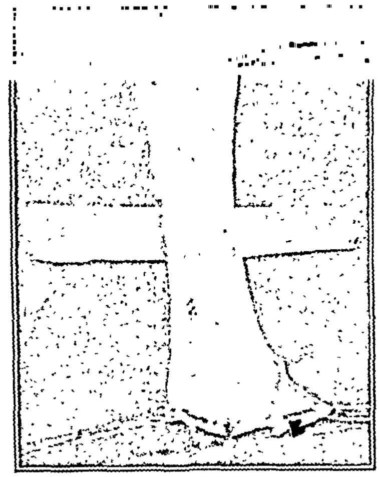

Fig. 1.

Fig. 1.—Femoral, clamped twenty-four hours. Small collateral given off above point of compression. Removed ten days later. All illustrations 1 to 12 represent a magnification of 3½ times. The small transverse markings seen in some at points away from the clamps were produced by slight shrinking of vessel.

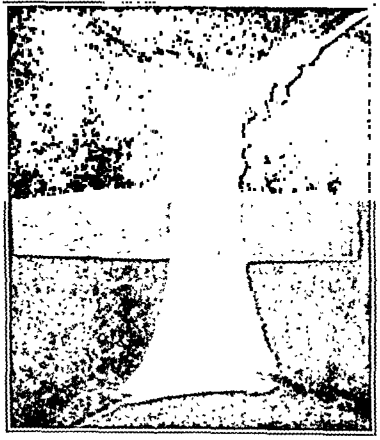

Fig. 2.

Fig. 2.—Carotid, clamped forty-eight hours; absolutely uninjured.

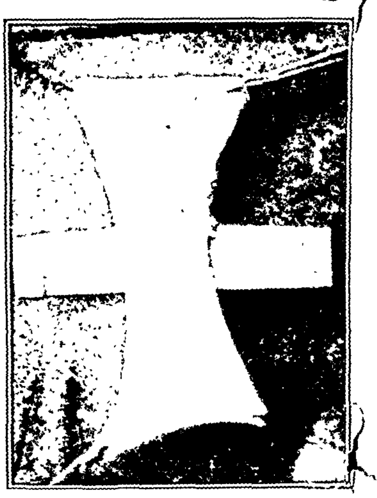

Fig. 3.

Fig. 3.—Femoral clamp removed after forty-eight hours, and vessel removed ten days later. Small pits seen are openings of collaterals.

Each band should be prepared for use by paring the sharp angles of the free end that is to be carried around the artery with scissors, the sharp edges should also be softened with a file; this is what Professor Halsted has aptly described as "manicuring a band."

If it should become necessary to remove the band at any time, on account of ischemic disturbances in the territory supplied by the occluded vessel (e. g., when cerebral disturbances occur after occlusion of the common carotid), the point of a sharp instrument inserted between the approximated ends of the band and slightly twisted accomplishes the separation and releases the vessel, allowing the circulation to be restored.

The bands have now been applied in the human subject fourteen times, seven times by Dr. Matas: (1) to the right common carotid and right subclavian, (third division), for innomino-aortic aneurysm; (2) to right common carotid and right subclavian for innomino-carotid aneurysm; (3) as a preliminary to extirpation of a tumor of the upper carotid region, followed in three days by simultaneous extirpation of the tumor with the common carotid, including its bifurcation; (4) to right common carotid, as a preliminary to extirpation of tumor of lower jaw and submaxillary region; (5) to left common carotid as a preliminary to extirpation of pharyngeal, palatine and tonsillar neoplasm; (3) to right common carotid and right subclavian for innomino-aortic aneurism; (7) by Drs. Matas and Allen: to the internal and external carotids, just above the bifurcation, for innomino-aortic carotid aneurysm; (8) by Drs. Gessner and Matas, to the right common carotid at point of election for aneurysm involving carotid bifurcation; (9) by Dr. Allen, as a preliminary to extirpation of parotid tumor; (10) by Dr. I. Cohn, to the right common carotid and right subclavian for innomino-aortic aneurysm; (11) by Dr. Cohn, to left common carotid, as a preliminary to extirpation of carcinoma of neck, jaw and cheek; (12) by Dr. Gessner, to right common carotid, as a preliminary to extirpation of carcinoma of root of tongue; (13) by Dr. Matas, on the common carotid to control bleeding and starve a carcinoma of right parotid region. In all these cases the bands were applied as "test occlusions," but, as in no instance did cerebral or other disturbances in the peripheral circulation develop, the bands were allowed to remain undisturbed and in this way permanently occluded the vessels to which they were applied.

The only case (No. 14) in which the prophylactic value of this method of occluding the arteries was demonstrated, was a case of pulsating exophthalmos, in which ligation of the right carotid had been done twenty years previously.

> The case was reported by Dr. Charles H. Mayo at the recent meeting of the American Surgical Association, Washington, May 3-5, 1910. The patient, a woman over 60 years of age, had suffered from a relapse of all the exophthalmic symptoms, complicated with general cirsoid enlargement of the vessels of the cranium and face.
>
> The patient came to him after the common carotid on one side had been ligated for arteriovenous aneurysm [presumably traumatic rupture of internal carotid in the cavernous sinus. R. M.].

In this operation an attempt was made to ligate the dilated vessels around the orbit, resulting in the loss of an eye. When the patient came to Dr. Mayo there was an enormous protrusion of the left eye and pulsating veins on that side of the head. He determined to occlude the common carotid by the method we have described, and proceeded to do so under cocain anesthesia, using a little clip of block tin about three-quarters of an inch long and the width of the artery. When he was almost through with the operation, the patient remarked that she could not see anything; "the light was going out."[1] He immediately began to loosen the clip until the vision returned. This was done six months ago, and last week (end of April, 1910) the clip was still on her common carotid and her vision was better than before the operation.[1]

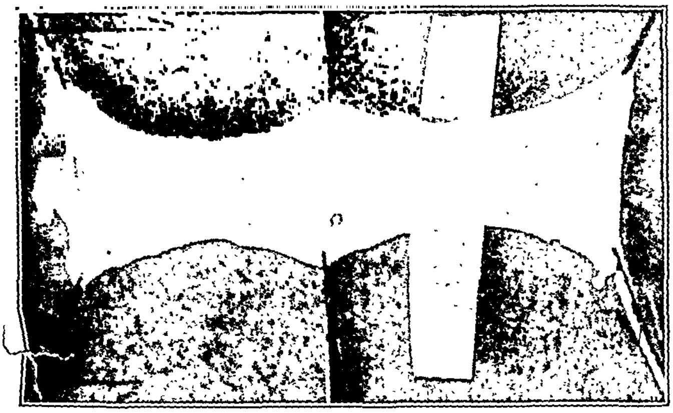

Fig. 4.—Carotid, clamped seventy-two hours; absolutely uninjured.

This was a brilliant and convincing demonstration of the superiority of the band over the ligature.

If a ligature had been applied, irremediable damage to the artery would have followed.

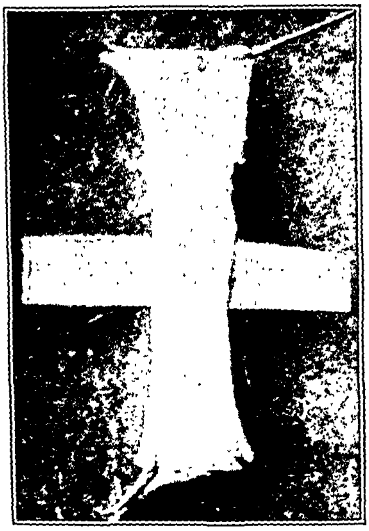

Fig. 6.—Carotid, clamped ninety-six hours. Intima adherent and vessel walls slightly corrugated at that point.

In all our cases the perfect tolerance by the tissues of the band, when properly applied, was demonstrated; without exception the bands remained permanently encysted in a fibrous sheath, without causing the slightest irritation.

As a result of this experimental inquiry, the following conclusions were arrived at:

1. It is possible to compress a vessel to the point of obliterating the pulse and maintain this pressure for from three to four days before obliterative endarteritis occurs.

2. All the vessels clamped in this manner stand compression seventy-two hours without recognizable gross visible changes; some begin to show decided changes in ninety-six hours.

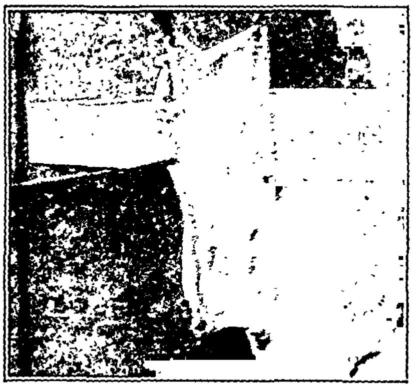

Fig. 5.—Femoral, clamped seventy-two hours; removed ten days later. Note collaterals.

In a report of the examination of the fifteen specimens of dogs' arteries (femoral and carotid) made by Dr. Frazer B. Gurd, demonstrator in the Laboratory of Surgical Pathology at Tulane, he concludes:

> Unless trauma be sufficiently marked to crush the tissues throughout the entire thickness of the vessel walls, no changes will be noted, either in the endothelial lining or in the inner layers of the muscular coat in the vessels which have been clamped for seventy-two hours or less. In vessels which have been subjected to clamping for four days or more, there does not appear to be the same tendency to return to normal conditions. The lumen remaining obliterated, but little evidence of degenerative change is seen and thrombus formation is, apparently, not prone to take place.

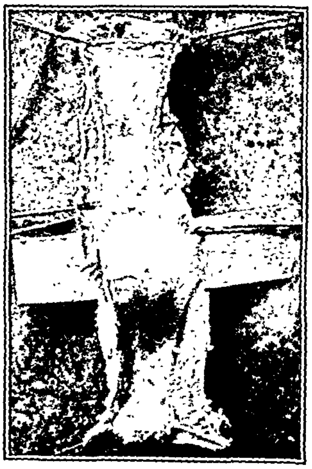

Fig. 7.—Femoral, clamped 120 hours; removed thirteen days later. Obliteration; staining from adherent thrombus.

Finally, there is seemingly no reason why in ligating the great vessels at the root of the neck and at the limbs, in continuity, these removable bands should not be substituted for the circular ligature, which permanently damages the artery, even when carefully applied. The ligature cannot be released when fatal ischemia threatens in the peripheral parts, as in the brain, without almost absolute certainty of thrombus formation or embolism starting at the seat of the ligation. The advantages of this simple method of arterial occlusion which interrupts the circulation without damaging the arteries permanently, can be readily appreciated by all those who realize the practical importance of first testing the efficiency of the collateral circulation.

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[1] See report of the proceedings of the American Surgical Association, May 3-5, 1910, Washington, D. C., Ann. Surg., July, 1910, p. 130.

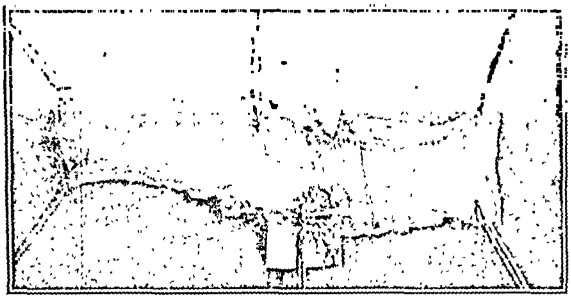

Fig. 8.—Carotid, clamped 144 hours. Vessel removed eighteen days afterward. Complete obliteration with adherent thrombus.

REPORT OF THE HISTOLOGIC EXAMINATION OF THE ARTERIES CLAMPED WITH METALLIC BANDS, BY DR. F. B. GURD

The specimens supplied by Drs Matas and Allen for histologic examination consisted of small portions of dogs' arteries, carotid and femoral, but chiefly carotid. Altogether fifteen such specimens were examined. The tissues were fixed in Zenker's solution, and in 10 per cent. dilution of liquor formaldehydi, in order to have better material for the determination of elastic tissue changes. They were imbedded in paraffin and sections stained by hematoxylin-eosin, Mallory's connective tissue stain, phosphotungstic-acid-hematein and Weigert's elastic tissue stains.

Since the changes in practically all the vessels are similar, a detailed description will be made of only those which show more important variations. The specimens, in general, fall into two groups, the first of which, containing twelve arteries, is composed of sections from vessels removed immediately after taking off the clamps after these had been in position for periods varying from twelve to 144 hours. The second group consisted of three specimens in which following the application of the clamps during periods of twenty-four, forty-eight and seventy-two hours, respectively, the vessels were left, *in situ*, for seven days in order that late changes might be studied.

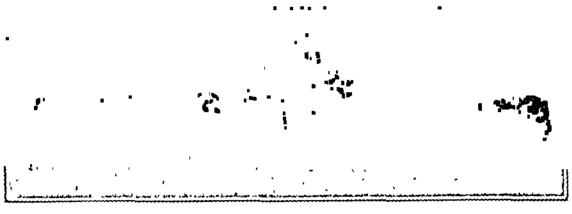

Fig. 10.—Early model of band made of silver strands held in place with clip (obsolete).

As a general statement it may be said that no intimal or endothelial changes appear in any of the sections from vessels which had been clamped for seventy-two hours or less, with the exception of two which will be described in detail. In practically all specimens there is a more or less marked change in the adventitia and in the outer portion of the muscular coat. These changes consist, in the less marked cases, of a swelling of the collagenous fibrils together with an edema present in the adventitia and between the muscle bundles in the outer muscular layer (Fig. 15). In the other vessels about the situation of the clamp there is an infiltration with lymphoid and plasma cells, together with a slight increase in the number of vessels in the adventitia. In two instances the adventitia and the surrounding tissues are the site of an acute inflammatory process as evidenced by the presence of polymorphonuclear leukocytes and fibrin, evidently the result of infection.

It is noteworthy that, in the three vessels in which the clamps had been removed seven days prior to removal of the vessel itself, there is found, practically, an absolute return to normal conditions, a slight increase in the number of lymphoid and plasma cells in the adventitia alone being noted.

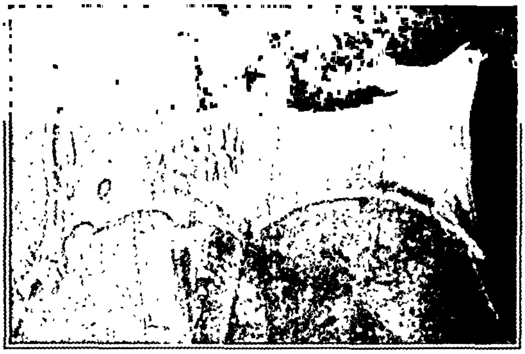

Fig. 9.—Carotid, clamped 168 hours; removed fifteen days later. Complete destruction of intima. Difficult to re-establish lumen of vessel.

In two instances the inner coats of the vessel showed changes caused by excessive pressure, which crushed the vessel wall. One of these occurred in a specimen removed thirty-six hours after the application of the clamp. The adventitia in this case is the site of an acute inflammatory process, there being moderate numbers of polymorphonuclear leukocytes, as well as fibrin and serum present in the outer portions of the adventitia. The lining endothelium in one area has apparently been destroyed and the removal of the clamp has not resulted in the return of the vessel to its normal tubular shape. Lying between the separated muscle bundles in the inner part of the muscle coat are collections of red blood cells together with a few polymorphonuclear leukocytes. Lying within the lumen and attached to the wall of the vessel at a point proximal to that area at which the walls are adherent is an oval thrombus containing numerous polymorphonuclear leukocytes (Fig. 16).

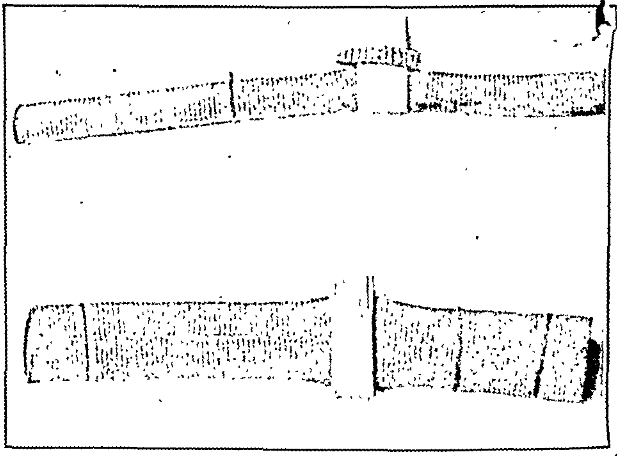

Fig. 11.—Two solid aluminum bands above, old model, thin metal, held in place with lead clip (obsolete); below, latest model, thicker (20 Brown & Sharp's sheet-metal gauge), soft enough to be moulded by digital pressure and thick enough to compress vessel without clip.

The other case is of even greater interest in view of the difficulty which has been constantly experienced in producing aneurysms experimentally in lower animals by mechanical means. The specimen is a portion of a carotid which had been clamped for a period of seventy-two hours, the vessel being excised shortly after the removal of the clamp. When viewed with the unaided eye this section consists of a vessel 9 mm. in length, having a wall 1 mm. in thickness. The lumen of the vessel at either end measures 2 mm. in width. In the center, however, there is a fusiform dilatation 3.5 mm. in length and 3 mm. in width. Examined microscopically, it is noted that, with the exception of that portion of the vessel surrounding the dilatation, the wall is normal. This dilated portion shows a complete destruction of muscle fibers with the exception of a few nuclei in the outer zone which stain poorly. The tissue in this area is composed of a hyaline or slightly granular staining material, practically devoid of cellular elements. The wall is about half the thickness of that in the more normal-looking portions of the vessel. The endothelium is intact throughout the entire length of the vessel including that portion showing the aneurysmal dilatation (Fig. 17).

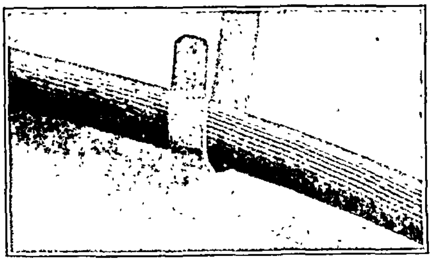

Fig. 12.—Mode of applying aluminum band to artery (rubber drainage tube used as model). The bands are originally cut long enough to be handled and used as aneurysm needle.

Three specimens which were removed after five or six days' clamping show a similar condition to one another. None show marked degenerative processes, but in all the continuity of the lumen has been destroyed, the vessel not having returned to its tubular form. The endothelial lining, however, so far as it can be identified, appears normal, the obliteration of the lumen being due apparently to a loss of elasticity of the wall rather than to any cohesion of the opposed surfaces. All vessels show a moderate destruction of the muscular tissue and replacement by edematous fibrous tissue, but in none is this process extensive.

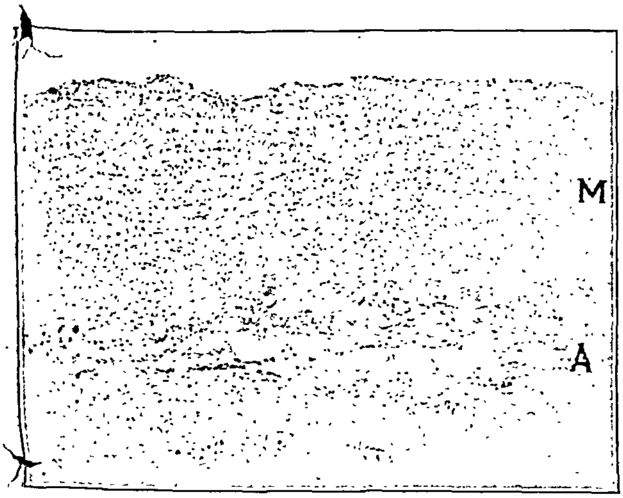

Fig. 14.—From photograph of vessel-wall after application of clamp for seventy-two hours. Note normal appearance. M, media; A, adventitia. Magnified sixty times.

CONCLUSIONS

To sum up, it may be stated that unless trauma be sufficiently marked to crush the tissues throughout the entire thickness of the vessel wall, no changes will be noted either in the endothelial lining or in the inner layers of the muscular coat in vessels which have been clamped for seventy-two hours or less. Exactly what may have been the determining factor in the complete degeneration in the musculature preceding the production of the aneurysm described in the last specimen apart from pressure atrophy does not appear evident from the examination of the specimen histologically; the process has apparently progressed very rapidly since we find at the end of seventy-two hours a complete destruction of all the musculature of the vessel wall. In vessels which have been subjected to clamping for four days or more there does not appear to be the same tendency to return to normal conditions. The lumen remains obliterated, but very little evidence of degenerative changes is seen; thrombus formation is, apparently, not prone to take place.

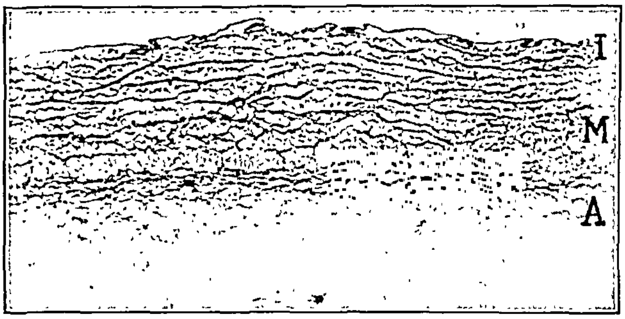

Fig. 13.—From photograph of vessel stained with Weigert's elastic tissue stain, showing normal arrangement of fibers following application of clamp for forty-eight hours. I, intima; M, media; A, adventitia. Magnified fifty times.

Addendum.—While this paper is going through the press we have had an additional opportunity to test the value of our removable bands in the occlusion of the common carotid. The results have confirmed so strikingly the argument advanced in the text that we feel amply justified in supplementing it by appending a brief detail of the observation. On Nov. 16, 1910, a white laborer, aged 62, entered our surgical service (Ward 69) in the Delgado Memorial Charity Hospital, presenting an advanced carcinoma of the left upper maxilla. The tumor projected as a disfiguring mass from the cheek and was complicated by a large aggregation of glands which filled the left submaxillary and upper carotid regions. As these glands were immovable and adherent to the carotid sheath, as low down as the bifurcation of the carotid, we concluded that a radical operation would be impossible without a block dissection of the glands, which would in all probability neces-

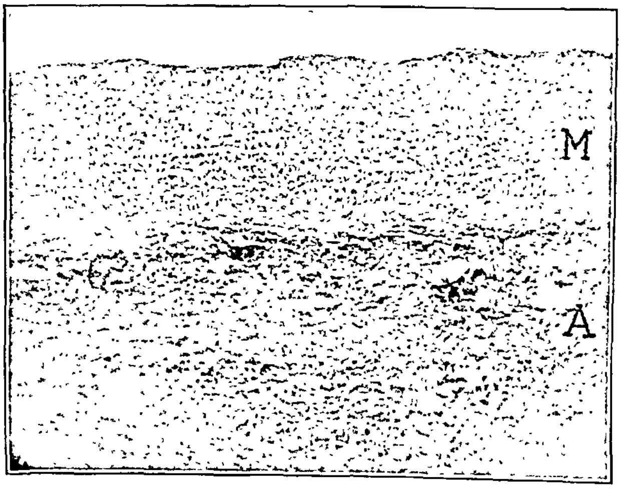

Fig. 15.—From photograph of vessel-wall removed after having been clamped forty-eight hours. Note normal intima and acute inflammatory process in adventitia. M, media; A, adventitia. Magnified fifty times.

sitate the extirpation of the carotid branches, including the bifurcation and the upper internal jugular. We therefore decided to limit our first occlusion of the common carotid at the point of election in order to test the efficiency of the collateral circulation in the brain. This procedure was carried out at our regular clinic on Monday, November 21. The artery was readily exposed after a preliminary local cocain (Schleich No. 1) and epinephrin anesthesia which was in every way satisfactory. An aluminum band was adjusted to the common carotid, the band being molded and pressed on the vessel with the fingers until the pulse on the distal (cerebral) side ceased to beat. Before this was done, careful note was taken of the pulsation of the opposite right carotid and of the pulses in the peripheral branches (facial and temporal) which were distinctly felt. After the occlusion, it was noticed that the temporal and facial pulses on the corresponding (left) side had practically ceased; while those on the opposite side remained undisturbed. The patient stood the operation perfectly, assisting us in changing the position of the head to suit our purposes. We watched carefully for cerebral symptoms after the occlusion, but the patient never complained; the pupils remained symmetrical, there was no syncopal feeling or dizziness and only a little pallor on the affected side. The patient drank a toddy with relish. The wound was then closed in the usual manner. The artery was occluded at 10:30 a. m., and the patient was on his way to the ward at 11 a. m. Instructions were given to watch carefully for cerebral symptoms. The patient was reported doing well and comfortable until about 6 p. m. when it was noticed that he had become aphasic and very somnolent and almost completely hemiplegic on the right side of the body. We were quickly notified of the occurrence by the intern of the service and one of us (Dr. Allen) at once proceeded to the bedside. He found the condition of the patient as above stated; the stupor amounting almost to coma, with vomiting, marked dyspnea and rapid, weak pulse 120, temperature subnormal.

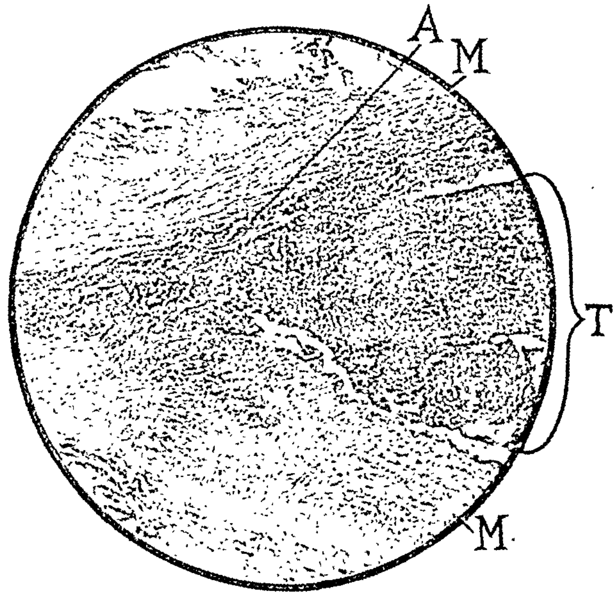

Fig. 16.—From photograph of vessel-wall after clamping for forty-eight hours. Note hemorrhage between muscle fibers in inner third of vessel (A); also, destruction of endothelium and adherent thrombosis (T). M, media. Magnified thirty times.

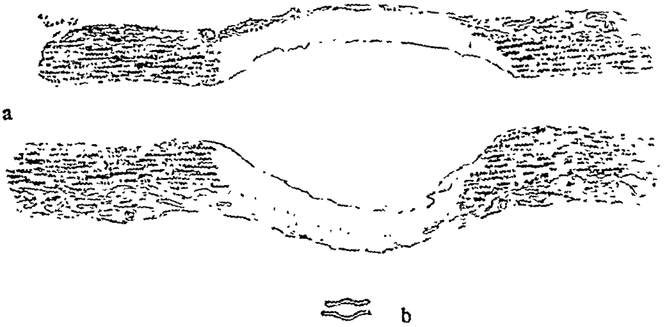

Fig. 17.—Aneurysmal dilatation produced by clamping artery of dog for seventy-two hours with crushing force; the only example of dilatation obtained in our extended work; *a*, appearance same section with low amplification; *b*, actual size of dilated vessel.

All these manifestations came on rather suddenly. After some unfortunate delays, the wound was reopened with aseptic precautions and the band removed at 7:30 p. m. about one hour and a half after the brain symptoms had been recognized. After the removal of the band, the circulation in the carotid and its branches was quickly restored. The peripheral pulses in the facial and temporal could be felt, and the artery pulsated where the band had previously compressed it. No damage had been done to the artery apart from a slight edematous indentation. The wound was closed with sterile adhesive strips and occluded with sterile dressings. During the night that followed the patient roused more easily, the pulse fell to 90 and the respiration improved. The next day, Tuesday, November 22, the patient was still more lucid, though aphasic, and less paretic in the right arm and leg.

He swallowed well and maintained a good state of nourishment. On Wednesday, November 23, there was marked and decided improvement in speech; no somnolence or stupor; the hemiparesis of arm and leg was rapidly disappearing. Thursday, November 24, patient's mental state was practically normal. Speech was no longer impaired; there was no aphasia: he had regained full control of arm and leg. All that remained was a tingling and slight numbness in the right arm and leg. Here, then, we have a conclusive demonstration of the complete recovery of the brain after a period of ischemia in the left hemisphere lasting about nine hours, and a complete functional recovery in about sixty-two hours after the removal of the occluding band. It is probable that if the band had been removed immediately on the appearance of the first symptoms the period of repair would have been shortened considerably.

As it is, the value of the band as a preliminary test of the competence or incompetence of the cerebral collaterals has been convincingly demonstrated. Had the artery been ligated in the old-fashioned way it is more than probable that irreparable damage would have followed and that we should have had to deplore a calamitous fatality instead of rejoicing at a happy rescue from a most menacing situation.

It is also significant that this is the second time in our experience with fifteen carotid occlusions in which grave cerebral complications have been avoided by the timely removal of our metallic band.

2255 St. Charles Avenue.

ABSTRACT OF DISCUSSION

Dr. George W. Crile, Cleveland: Since hearing Dr. Matas' paper in Washington, I have had an opportunity to test his methods in two cases. In some instances one knows from the symptoms present precisely the point of election for amputation of an extremity, but when there is doubt as to the point of election this method of Matas and Allen is an excellent one. The extremity is blanched up to the pelvis with an Esmarch bandage, making the limb ischemic, and then the femoral artery is compressed to let the operator watch the collateral circulation. In that way one gets a definite line, a blush or erythema, which marks the point of election for the amputation. In operations on the brain, or in operations requiring closure of the carotid artery, the brain must be considered, and here it is a matter of extreme value to us to have this method. In operations on the head and neck, I have closed temporarily the carotid artery more than one hundred and fifty times. I have found among these observations many things bearing on the points made by Dr. Allen. In younger subjects one almost never observes unfavorable symptoms, but in aged subjects I have seen rather marked phenomena. For instance, in operations with closure of the common carotid artery, in a patient over 70 years old, I have seen slight delirium for a day after the occlusion of the artery for half an hour. We now know exactly what has happened, thanks to the investigations on anemia of the brain. The brain cells do not endure a total anemia lasting more than six or seven minutes. When they are subjected to anemia lasting longer than that, a permanent degeneration of certain cells occurs. They are the cells of the cortex. It therefore becomes necessary that the collateral circulation be tested under certain circumstances before we dare hazard the closure of the common carotid artery. This is particularly true when one is obliged to make permanent closure of the artery. It is by methods of this kind that one can test the collateral circulation of the brain to see whether or not such a permanent occlusion can be made.

Whenever the circulation of the brain is impaired by old age or other reasons, temporary occlusion of the common carotid artery produces some interference with cerebration. Such a case is not a safe one for permanent occlusion, and we know very well that in permanent occlusions of the common carotid artery softening of the brain is a sequence, depending on the age of the patient—in young patients not more than 10 per cent. If one were to tie the common carotid artery in 100 patients over 70 years of age, one would probably find impairment of the cortex of the brain, up to complete softening of one side, at least in 90 per cent. Therefore, I regard closure of the common carotid artery in older subjects as a very hazardous procedure.

DR. D. N. EISENDRATH, Chicago: The field which this paper has opened up is coming to be of considerable practical surgical importance. Dr. Strauss and I have been carrying on a series of experiments during the past winter, endeavoring to imitate as closely as possible the temporary closure of the arteries and veins of the kidney during the removal of renal calculi. In order to imitate these conditions as closely as possible, we undertook a series of experiments on rabbits, compressing the renal artery and vein for 15 minutes, then for 30, then for 45 minutes, 1 hour and 2 hours. The results of our experiments, in brief, are these: With the rabbit's kidney, which is very sensative (there is scarcely any animal whose organs are more sensitive to arterial anemia than those of the rabbit), at the end of 15 minutes there was a slight amount of cell infiltration. At the end of 30 minutes this had slightly increased. At the end of an hour the parenchyma of the kidney showed marked signs of parenchymatous degeneration and of calcification. After 2 hours the changes were profound. These animals were killed at the end of 4 weeks. The animals killed after 48 hours showed very slight changes indeed. This emphasizes the fact that one can keep up compression on these arteries without very much influence on the parenchymatous structure of the organs, for at least a short space of time.

DR. C. W. ALLEN, New Orleans: Dr. Crile brought out a very important point—the age limit of the patient. The nearer the patient to 45 years of age, the greater the danger of closing either of the carotids. We have found, however, that this was not always reliable, as demonstrated in several cases in which anomalies have occurred. In these cases, the circle of Willis was not competent to supply both sides of the brain, the communication between the two sides not being sufficient. In conditions of this kind, trouble is likely to arise, no matter how young the patient. The determination of these conditions before permanent occlusion of the carotids was one of the needs that stimulated our developing this method. Another point which Dr. Eisendrath's remarks suggested is that we have found the bands extremely useful in operating in a limited space, where it is necessary to secure hemostasis and very little room is found available for the application of a clamp, even the size of a Crile clamp; in these cases the band will take up almost no room.

Comatose Malaria.—H. L. Sutherland states that the treatment of this condition may be summed up in plenty of quinin hypodermically and ice-caps to the head. To attempt to give medicine by mouth is, he says, worse than useless, as the jaws are locked in nearly all cases, and deglutition is very uncertain.—*Memphis Medical Monthly.*

ARTERIOSCLEROSIS OF THE UTERINE VESSELS

WITH A CONSIDERATION OF THE CAUSE OF HEMORRHAGE AND REPORT OF CASES *

SIDNEY A. CHALFANT, M.D.
PITTSBURG

In the history of this condition we find a cycle such as is common in many medical subjects. At first only the changes in the uterine muscle and blood-vessels were considered. After Olshausen's introduction of the curette attention was centered on the endometrium. All irregular bleeding was attributed to changes in this structure, and an almost infinite number of classifications and varieties of endometritis resulted. The work of Adler and Hitschmann,[1] which was later verified by Norris and Keene,[2] has shown that much of that which was formerly considered pathologic in the endometrium is simply the normal change that occurs in the menstrual cycle.

But long before this work on the endometrium was done, attention began to be directed again to the changes in the blood-vessels and uterine muscle. I shall not attempt to review all the literature on this subject but shall refer to only a few of the more important articles. Findley[3] in 1901 was one of the first in America to write on this subject, notwithstanding operators had been removing the uterus for this condition for several years before. The case he reports was one of the so-called "apoplexia uteri" due to an embolism of the uterine arteries, which was probably cardiac in origin. In his later paper[4] he attributes the hemorrhage to a muscular insufficiency, and this in turn to an overgrowth of the fibrous tissue, both between the muscle bundles and about the arteries. With these conclusions I do most heartily agree concerning the value of the uterine muscle in the control of hemorrhage. Anspach[5] demonstrated that the increased connective tissue in and about the arteries was very largely elastic rather than fibrous tissue. He suggested that, as this elastic tissue was so commonly found in the uteri of multiparæ, its presence was physiologic rather than pathologic and that the hemorrhage in these cases was due to a lack rather than an excess of elastic tissue.

Goodall[6] has made another and very decided advance in our knowledge of these cases. He has shown that the uterus after each pregnancy develops a complete new set of arteries; that where the difference in size between the old artery and the new one is great as in the placental area, a complete new vessel with three complete new coats is formed within the lumen of the old one; but where the difference in size is less marked, part of the old vessel is retained and is incorporated as a part of the wall of the new vessel. Normally the unutilized portions of the walls of the old vessels undergo hyaline degeneration and are completely absorbed. This is the ideal involution. But when some local disturbance or constitutional condition complicates the puerperium, the change is less perfect and the muscularis of the old vessel, after the hyaline degeneration has taken place, is replaced by elastic tissue instead of muscle. This is in accordance with Nature's law to do the best thing possible under the conditions present. Where the disturbing factor is very severe, and particularly in patients past 35 years of age, instead of elastic tissue, Nature produces a structure even lower in the scale, that is, fibrous tissue.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Adler and Hitschmann: Monatschr. f. Geburtsh. u. Gynäk., xxvii, part 1.

[2] Norris and Keene: Surg., Gynec. and Obst., x, No. 1, p. 44.

[3] Findley, Palmer: Am. Jour. Obst., xliii, 30.

[4] Findley, Palmer: Am. Jour. Obst., iii, 71.

[5] Anspach: Univ. Penn. Med. Bull., xviii, No. 12, p. 322.

[6] Goodall: Am. Jour. Obst., ix, No. 6, p. 921.

Pankow,[7] in an effort to find some definite pathology for these cases, examined fifty-two uteri, excluding all benign or malignant new formations and fresh or old inflammation. He says:

> From a comparative anatomic examination of uteri from bleeding and non-bleeding multiparæ and nulliparæ there is no evidence of anatomic change to account for hemorrhage. All the changes in the myometrium considered in causal relation with bleeding are found only in part of the clinical bleeding cases, and are found in others having no clinical history of bleeding.

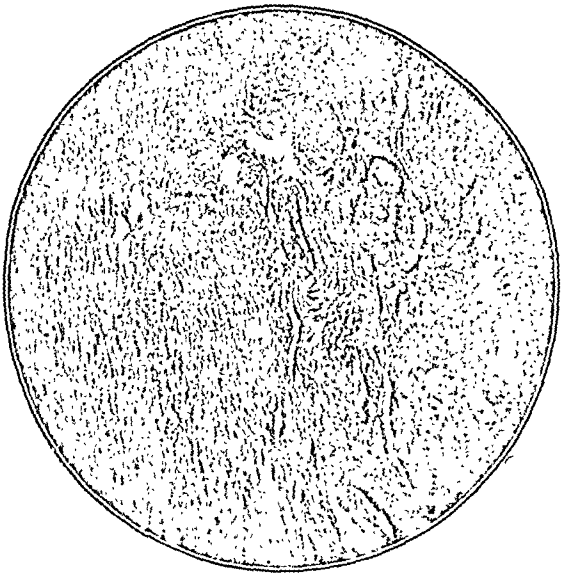

Fig. 1.—Normal vessels from girl aged 18. Never pregnant. Uterus removed on account of double pyosalpinx.

He concludes that "there is therefore nothing characteristic for bleeding uteri."

In his later paper Anspach[8] minimizes the influence of the arterial and muscular changes in the causation of hemorrhage and suggests that the cause is some other condition, as endometritis, lacerations, displacement of the uterus, pelvic inflammation or pelvic congestion from disease of the heart or kidneys. The objection to considering these conditions as the primary cause is the fact that they are so commonly found without any accompanying disturbance of the menstruation.

Out of twenty-five patients who have had a hysterectomy for hemorrhage in the past five years, I have studied the uteri of eleven. These were all in which I was able to find both the specimen and a history sufficiently detailed to justify examination. In addition to these I have studied the uteri from three other multiparæ which had been removed for other causes; one an enlarged uterus that had been causing pain, one a complete prolapse, and one for a very hard suspicious cervix, although curettings and pieces of the cervix were reported not malignant. The patient, one year past the menopause, had no hemorrhage, but a slight leukorrhea.

Specimens were taken from just below the level of the tubes, about the internal os and from the cervix where it had been removed. Sections were made to include the entire thickness of the uterine wall, and were stained with hematoxylin and eosin, Van Giesen, Weigert and Van Giesen and Weigert carmin.

Gross Pathology.—On account of the hardening and shrinkage, it was very hard to draw conclusions concerning the size of the uterus, particularly as many of them had been removed by a supravaginal hysterectomy. Those that had been removed recently all showed an enlargement of varying degree. On cut section the vessels stand out quite prominently and appear to be larger in size and more numerous than normal. I was able to be more certain of this in three cases in which operation had been performed recently. In the specimens that had been in preservation for a long time, this feature was not so apparent.

It would seem that this increase in number and size of the vessels had some etiologic relation to the hemorrhage.

Endometrium.—One patient had a polypoid endometritis with a history of a curettement two years previously and removal of a polypus at that time. The endometrium in the other ten showed varying degrees of thickening, depending on the relation to the menstrual period, but nothing that was characteristic of hemorrhage could be found.

Muscle.—There was in all the cases some increase in connective tissue. In some the fibrous tissue predominated, in others the elastic. The development of elastic tissue between the muscle bundles did not seem to bear any relation to the severity of hemorrhage either for or against it, *e. g.*, in Case 1 with a moderate development of elastic tissue there was very severe hemorrhage, and in Case 2 with equally severe bleeding there was a very marked increase of elastic tissue. The same can be said of the fibrous tissue. No difference could be detected by the pathologic examination between the cases with hemorrhage and those having no such history.

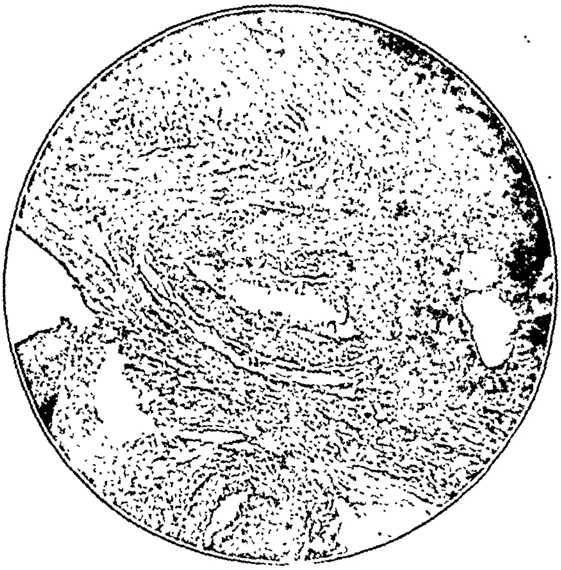

Fig. 2.—Case 8—Moderate hemorrhage. Moderate arteriosclerosis.

Blood-Vessels.—The arteries all show some increase of elastic tissue, particularly around the vessel. This, I take it, is the subinvolution to which Goodall called attention.

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[7] Pankow: Ztschr. f. Geburtsh. u. Gynäk, lxv, 336.
[8] Anspach: Surg., Gynec. and Obst., ix, No. 3, 315.

But I could not trace any connection between the amount of elastic tissue and the severity of the hemorrhage, or its presence or absence.

There is one class of cases to which little attention has been given. That is those in which there is a marked dilatation or varicose condition of the veins of the uterine wall.

The only case I have been able to find in which there has been a hemorrhage from a rupture of such a vein is the one reported by Dr. Simpson, in 1905.[9] But I have records of four others in which there was a very decided dilatation of the veins, particularly of the cornu of the uterus and a varicose condition of the veins of the broad ligament.

In all but the first of these cases the diagnosis was made before operation by Dr. Simpson. In all the uterus was very soft and there were varicose veins of the vagina or labia; so that it would seem possible to make at least a tentative diagnosis before operation where the patient gives a history of menorrhagia or metrorrhagia, where a very soft uterus is found on examination and the curet shows carcinoma not present. Such patients are likely to have varicose veins in other parts of the genital tract.

Microscopic examination in these eleven cases failed to show anything present in the cases of hemorrhage that was absent in the ones without such a history, or the converse; so that I must agree with Pankow, who concludes that it is impossible to tell from the history what the microscopic picture will be, and also that it is impossible from the miscroscopic examination to construct a clinical picture.

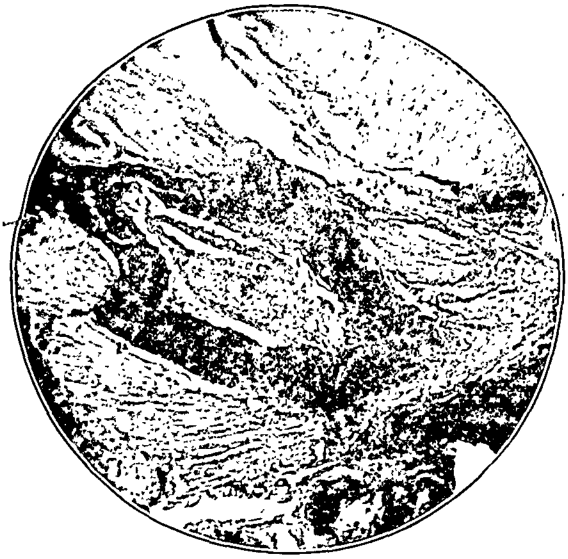

Fig. 3.—Case 5—Quite severe hemorrhage. Marked arteriosclerosis.

It has long been known that proper uterine contraction is the chief factor in the control of normal uterine bleeding.

Attention was directed to this again by Findley,[10] and recently by Norris and Barnard.[11] These writers called attention to the fact that the menstruating uterus is larger and has a larger cavity than the non-menstruating one. Bell and Hicks[12] have shown a regularly recurring contraction in the menstruating uterus of rabbits which were absent at other times. This leads us to believe that during the interval between menstrual periods the uterine muscle is in a state of tonic contraction and that there is during the menstrual period a relaxation and consequent hemorrhage. The relaxation and coincident hemorrhage that occurs at times during a curettement is a common experience, and the necessity of securing proper uterine contraction post partum is well known. The influence of ergot in the control of hemorrhage is equally well known.

With our present pathologic methods it is impossible to estimate the functional power of muscle tissue, so that it is not possible to demonstrate loss of functional power of the uterine muscle.

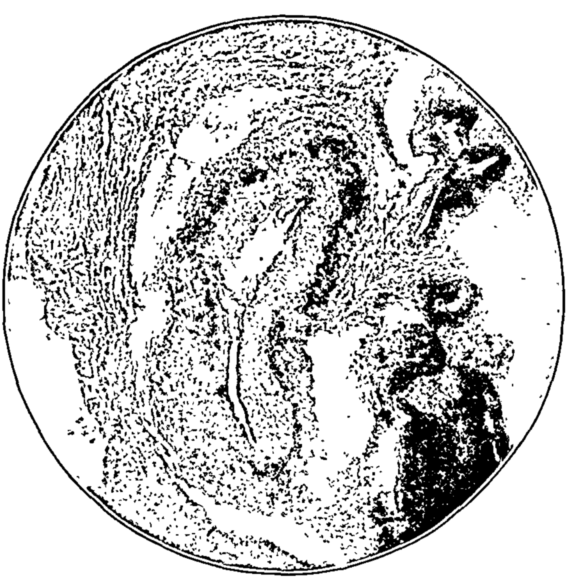

Fig. 4.—Case 9—Very severe hemorrhage. Moderate arteriosclerosis.

But it is now known that the increase of elastic and fibrous tissue in the multiparous uterus, although very common, is pathologic and due to some disturbance during the puerperium. It would seem reasonable to infer that there has been some loss in strength in the muscle, either from the same condition which caused the increase in connective tissue, or as a result of its presence. This would seem to me to furnish the predisposing cause for hemorrhage.

From the fact that this disturbance must have been active and produced its effect during the last puerperium, which in many cases was a number of years before the onset of the hemorrhage, we must look to something other than these puerperal changes for the immediate cause of the bleeding.

I would suggest that the increase in size and number of the vessels seen has some and possibly a very decided influence.

Whether this is an actual increase in vessels or merely a dilatation of those already present we do not know. The latter is more probable.

As I have stated, lacerations and displacements without excessive bleeding are so common that they do not seem to be an adequate cause of hemorrhage. One of my cases had a prolapse fourteen years before the beginning of her menorrhagia, and this was the only one of a moderately large series of prolapse cases in which bleeding of any moment occurred.

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[9] Simpson: Am. Jour. Obst., lii, No. 5.
[10] Findley, Palmer: Am. Jour. Obst., lii, 71.
[11] Norris and Barnard: Am. Jour. Obst., lxi, 753.
[12] Bell and Hicks: Brit. Med. Jour., 1909, i, 517.

Four of my eleven patients had probably had chronic nephritis as shown by the urinary findings. Two patients had had recent operations for repair of laceration, and bleeding became so severe while they were in bed that hysterectomy was necessitated. Another one had had a recent abortion and mild infection with a consequent local congestion. The other five gave no history of anything that would seem to be an adequate exciting cause except that they were all in the neighborhood of 40 years of age, when it is common to find general arteriosclerosis and a general rise of blood-pressure. This would seem to be worth investigating carefully.

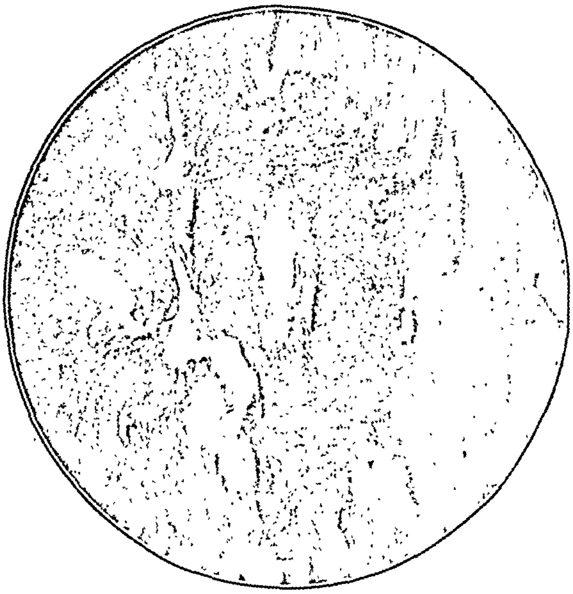

Fig. 5.—Case 3—Moderate hemorrhage. Marked arteriosclerosis.

Although I admit that my cases are too few to permit definite conclusions to be drawn, yet I would suggest as immediate causes for hemorrhage, (1) the increase in size and number of the blood-vessels, (2) a general increase of blood-pressure from kidney disease or general arteriosclerosis, (3) local acute congestions, (4) and anything that causes a general or local loss of muscular tone.

Treatment.—One cannot pass these cases without mentioning the necessity of excluding carcinoma. This can usually be done only by the examination of curettings and in some a section from the cervix. Even a history of hemorrhage for a number of years previous is not sufficient, as carcinoma may be a later development. This was the case in No. 3 of my series. There was a history of menorrhagia for four years, with the onset of metrorrhagia fifteen months before. At the time of operation a border-line case of carcinoma of the cervix was found.

The majority of the cases come finally to hysterectomy and we would agree with Gardner and Goodall[13] that we should be even more radical in advising this course than we have been in the past.

CONCLUSIONS

1. Proper uterine contraction is essential to the control of uterine bleeding.
2. There is no definite pathologic condition present in these cases that is not found in others not giving any history of hemorrhage, with the probable exception of the increase in number and size of vessels.
3. Some loss of functional power of the uterine muscle is the predisposing cause of bleeding in cases of arteriosclerosis.
4. This loss of functional power is due either to the development of fibrous and elastic tissue from subinvolution, or to the condition which caused this subinvolution.
5. The exciting causes are probably many. I would suggest the increase in size and number of vessels, general increase in blood-pressure from kidney disease or general arteriosclerosis, passive congestion from heart disease, local congestions, or general muscular weakness.

I want to take this opportunity to express my indebtedness to Dr. Simpson for the privilege of studying these cases from his clinic, and to Dr. Proescher for his help with the pathologic work.

REPORT OF CASES

CASE 1.—Mrs. B., aged 29, admitted June 3, 1907; married, two children, two abortions; last seven weeks ago; recent menstrual history, profuse and irregular; almost constant and profuse bleeding since last abortion; dilatation and curettage on admission; bleeding not controlled; very severe hemorrhage two weeks later.

Operation.—June 21, 1907, a supravaginal hysterectomy and bilateral salpingo-oöphorectomy were performed.

Gross Pathology.—Uterus about three times normal size, very soft and flabby; palpable arteriosclerosis of uterine arteries; endometrium not thickened; tubes closed, ovaries slightly cystic.

Microscopic Examination.—Endometrium normal; moderate, diffuse increase of fibrous tissue throughout the muscle; moderate increase of elastic tissue around vessels and in the subperitoneal layer.

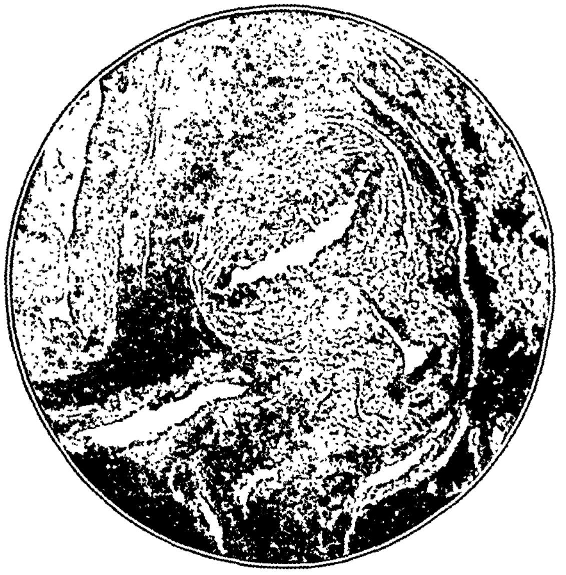

Fig. 6.—No hemorrhage. Very marked arteriosclerosis about vessels. Patient aged 50; 6 children. Uterus removed on account of chronic metritis and cervicitis. Menopause 1 year before.

CASE 2.—Mrs. F., aged 40, was admitted Sept. 7, 1907. Puberty occurred at 15; menstruation was regular, lasting from three to six days; married at 19; seven children, youngest 5 years old; no abortions. For the last two years patient had been menstruating irregularly at eleven to twenty-four-day intervals, period lasting from three to six days and being very profuse, leaving her weak after each period; no interval bleeding.

Operation.—Sept. 9, 1907, dilatation and curettage perineorrhaphy, supravaginal hysterectomy and left salpingo-oöphorectomy were done.

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[13] Gardner and Goodall: Brit. Med. Jour., 1906, ii, 1176

Gross Pathology.—Endometrium appeared normal, and reported not malignant from frozen section; uterus size of five weeks' gestation; palpable arteriosclerosis of uterine arteries; in fundus and particularly in both cornua are large veins 2 to 4 mm. in diameter; tubes normal; both ovaries slightly cystic.

Microscopic Examination.—Marked increase of fibrous tissue and of elastic tissue about vessels, most pronounced in vascular layer.

CASE 3.—Mrs. O., aged 42; puberty at 15; menstruation was regular each twenty-eight days, lasting from four to five days; amount moderate. Married at 24; three children; last twelve years ago; no abortions; repair of laceration one year ago; moderate menorrhagia the past year.

Operation.—May 4, 1908, combined vaginal and abdominal hysterectomy, bilateral, salpingo-oöphorectomy and appendectomy.

Gross Pathology.—Uterus slightly enlarged; palpable arteriosclerosis; tubes normal; ovaries cystic.

Microscopic Examination.—Very marked, diffuse increase of fibrous tissue; marked increase in elastic tissue about the vessels.

CASE 4.—Mrs. W., aged 48, admitted May 11, 1908; puberty at 12; menstruation regular each twenty-eight to thirty days, lasting from three to seven days; irregular past two years; moderate menorrhagia. Married at 29; one child 16 years old; no abortions.

Operation.—May 13, 1908, combined vaginal and abdominal hysterectomy and right salpingo-oöphorectomy.

Gross Pathology.—Uterus enlarged, twice normal size; palpable arteriosclerosis; right tube normal; right ovary cystic.

Microscopic Examination.—Diffuse increase of fibrous tissue through all layers, more marked in vascular and submucous layers; marked increase of elastic tissue about the vessels and vascular layers.

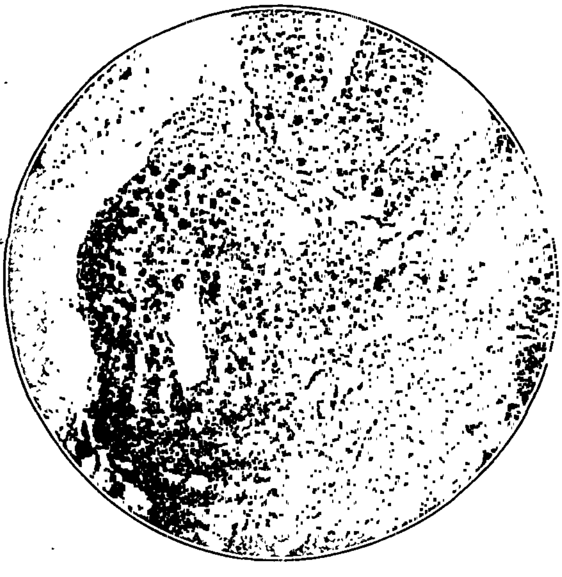


Fig. 7.—No hemorrhage. Quite marked arteriosclerosis. Excess of elastic tissue in vessel walls. Patient aged 41. Menstruation normal. Prolapse of uterus.

CASE 5.—Mrs. E., aged 47, admitted Jan. 11, 1909; puberty at 14; menstruation irregular. Married at 26; four children, youngest 14; no abortions; menstruation irregular for eleven years; for past two years menorrhagia and metrorrhagia quite severe.

Operation.—Jan. 15, 1909, supravaginal hysterectomy.

Gross Pathology.—Uterus normal size; palpable arteriosclerosis; tubes normal; left ovary slightly cystic (not removed).

Microscopic Examination. — Endometrium not thickened; chronic interstitial endometritis; marked increase of fibrous tissue through all layers; marked increase of elastic tissue around vessels and submucous and vascular layers.

CASE 6.—Mrs. T., aged 42, admitted Jan. 24, 1909; puberty at 12; menstruation irregular; each four to seven weeks; lasting from seven to ten days; one child; menorrhagia past six years. Two years ago dilatation and curettement for cervical polyp and perineorrhaphy were done. Menorrhagia has continued.

Operation.—Jan. 27, 1909, combined vaginal and abdominal hysterectomy, bilateral salpingo-oöphorectomy and appendectomy were performed.

Gross Pathology.—Polypoid endometritis; varicose veins of both cornua of uterus, diameter 2 to 4 mm.; tubes adherent, closed; ovaries cystic.

Microscopic Examination.—Marked increase of fibrous tissue and vascular layer, chronic interstitial endometritis; not glandular, but hypertrophic. Slight increase in submucous layer; slight increase of elastic tissue about the submucous layer, no increase in vascular layer; slight diffuse increase in subserous layer.

CASE 7.—Mrs. W., aged 43, admitted Feb. 4, 1909; puberty at 18; menstruation regular every twenty-eight days, of five-days' duration; moderately profuse. Married at 21; seven children; last, eight years ago; one abortion ten years ago. First noticed prolapse of uterus seventeen years ago; for past two and one-half years menstruation irregular; every two to five weeks, lasting five days; profuse menorrhagia.

Operation.—Feb. 6, 1909, vaginal hysterectomy and perineorrhaphy.

Gross Pathology.—Hypertrophy of the cervix; uterus normal size; palpable arteriosclerosis.

Microscopic Examination.—Endometrium thickened; interstitial endometritis; no increase of glandular tissue; marked increase of fibrous tissue throughout, and of elastic tissue about all vessels.

CASE 8.—Mrs. A., aged 44; puberty at 12; menstruation regular every twenty-eight days, three to four days' duration. Married at 22; four children last nine years; all died in infancy; four miscarriages; last five years ago; for past six months moderate menorrhagia and metrorrhagia.

Operation.—Sept. 14, 1906, perineorrhaphy, supravaginal hysterectomy and appendectomy.

Gross Pathology.—Endometrium about normal; uterus two and one-half times normal size; palpable arteriosclerosis; varicose veins in both cornua; tubes and ovaries normal.

Microscopic Examination.—Marked diffuse increase in fibrous tissue in submucous and vascular layers; slight increase in elastic tissue in vascular layer.

CASE 9.—Mrs. P., aged 31; puberty at 17; menstruation regular, lasting from six to seven days. Married at 20; three children; last, two years old; one miscarriage, four weeks ago; for past year patient has had a profuse menorrhagia, lasting two or three weeks; very severe bleeding for nine weeks, about six months ago; stopped for a short time, but has bled almost constantly and in variable quantity since.

Operation.—Feb. 1, 1910, supravaginal hysterectomy and appendectomy.

Gross Pathology.—Endometrium normal; uterus normal size; palpable arteriosclerosis; varicose veins of both cornua, 3 to 6 mm. diameter; tubes and ovaries normal.

Microscopic Examination.—Endometrium normal; marked increase of fibrous tissue in all layers; moderate increase of elastic tissue about the vessels and vascular layer.

CASE 10.—Mrs. G., aged 50, admitted Jan. 26, 1910; puberty at 15-16; menstruation regular, of from three to four days' duration. Married at 18; eleven children, youngest 12; one miscarriage, fourteen years ago; four years ago patient noticed menstruation became more profuse and irregular, at two or three weeks' intervals; duration, one week; fifteen months ago she noticed slight metrorrhagia; severe hemorrhage, Nov., 1908, lasting ten days; almost constant bleeding since.

Operation.—Jan. 27, 1910, combined abdominal and vaginal hysterectomy and bilateral salpingo-oöphorectomy.

Gross Pathology.—Carcinoma of cervix with involvement of the right broad ligament; uterus enlarged twice normal size; palpable arteriosclerosis; tubes normal; ovaries slightly cystic.

Microscopic Examination.—Squamous carcinoma of the cervix; endometrium normal; marked diffuse increase of fibrous tissue; marked increase of elastic tissue, particularly about the vessels.

This illustrates the necessity of investigating these cases carefully, as undoubtedly the bleeding of the arteriosclerosis had antedated for some time the development of the carcinoma.

Case 11.—Mrs. E., admitted March 3, 1910; puberty at 12; menstruation regular, lasting from three to five days. Married at 23; seven children, youngest three years old; two miscarriages, last eight months ago; menorrhagia began two years ago; dilatation and curettement eleven months ago; bleeding controlled for three months; since last abortion there has been profuse menorrhagia and metrorrhagia, almost constantly.

Operation.—March 6, 1910, supravaginal hysterectomy and perineorrhaphy.

Gross Pathology.—Uterus slightly enlarged; endometrium normal; palpable arteriosclerosis; large vein, 5 mm. diameter, in left cornu; tubes normal; ovaries normal.

Microscopic Examination.—Mucosa thickened; slight increase in glandular tissue; marked diffuse increase of fibrous tissue; marked increase of elastic tissue around the vessels.

ABSTRACT OF DISCUSSION

Dr. Emil Novak, Baltimore: It seems to me that the special importance of the study of arteriosclerosis of the blood-vessels of the uterus lies in the possible relation which it bears to uterine bleeding. That, I think, has been well emphasized by Dr. Chalfant. I agree that in certain cases uterine bleeding may be due to such conditions. Furthermore, we also recognize the fact that uterine bleeding is influenced to a considerable degree by the condition of the muscular tissue of the uterus. This seems to be pretty well demonstrated by the manner in which post-partum hemorrhage may be controlled by producing strong uterine contractions. It is not difficult to believe that the fibrous tissue of the uterus may also have some influence on uterine bleeding, as urged by Theilhaber. The point to be emphasized is that in a considerable number of cases—how large no one knows—uterine bleeding is present in the absence of any demonstrable pathologic lesion. It is unjustifiable to strain the imagination into believing that a slight increase in fibrous tissue, or perhaps a slight thickening of the arteries, is the cause of the bleeding, when these conditions, as a matter of fact, may represent normal variations. It seems to me that in a considerable number of cases of uterine bleeding we must invoke, not alone anatomic explanations, but also physiologic causes. Morris has referred to the present as the physiologic era in surgery. We may say also that this is the physiologic era in gynecology. In the explanation of uterine bleeding, we must bear in mind the normal physiology of menstruation. This concerns not only the myometrium, the endometrium and blood vessels, but also some underlying cause which most of us believe to be an internal secretion of the ovary. The importance of the internal secretions of the body has been greatly emphasized within recent years, but not sufficient stress has been laid on their relation to the physiology of the female genital organs. That there is such a relation permits of no doubt. I would like, if time permitted, to speak of the influence in this connection of the pituitary bodies, as has been shown experimentally by Dr. Cushing and others, and also to emphasize the importance of the thyroid hormone or hormones in connection with menstrual physiology and pathology.

In many cases of arteriosclerosis there is no uterine bleeding, and in many cases of uterine bleeding in which arteriosclerosis is given as a cause, such a condition does not exist. In many cases the so-called arteriosclerosis is really a normal process. This has been very well shown by Dr. Goodall and others, in the fact that we find thickening of the arteries in the uteri of women who have borne children. I would like, in short, to re-emphasize the point that in many of these cases of uterine bleeding there is no local anatomic cause whatoever to which we can assign this symptom.

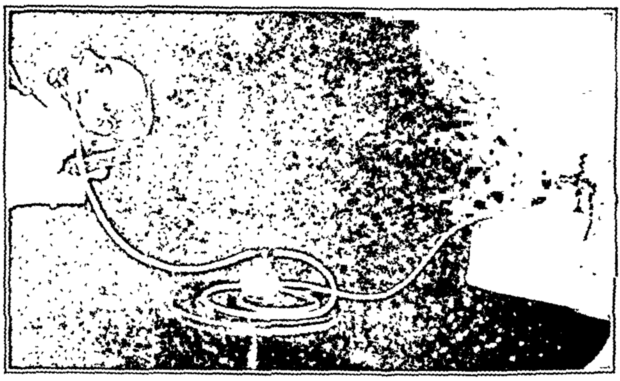
Dr. Collin Foulkrod, Philadelphia: The discussion of teriosclerosis, coming after the discussion of endometritis, makes a very pertinent point come up: Is not the bleeding coming from the same cause coming from two different points in the uterus? In the first place the arteriosclerotic bleeding is due, no doubt, to some cause within the patient's body. Contrary to Dr. Novak, if it is not due to the intima, there must be some cause which acts on the intima of the vessels and causes a condition, which is either anemia of the structures, which will not permit strong contraction of the blood vessels, or some other condition which precludes the possibility of contraction of the blood vessels. The result is the same. The few cases that have been classified have been those which we have not attributed to the arteriosclerosis or the general condition. There are few cases in which you do not find some demonstrable lesion either in the system or in the uterus itself.

AN ASPIRATING DEVICE

J. H. WILLIAMS, M.D.

CINCINNATI

The idea here illustrated is an addition to the siphon used by dentists; the water, passing rapidly down the specially constructed metal tube attached to the faucet, produces suction in the rubber tubes and glass container. The blood, mucus, and some air in the patient's throat, pass into and through the hard rubber mouth attachment and are continued along the rubber tube to the glass container, where the blood and mucus are deposited, the air going on through the second tube from the container to the faucet, and out with the passing water.



Hydraulic aspirator, for keeping the mouth and throat clear of blood and secretions in operations about those parts.

In all operations within the mouth or throat under general anesthesia, especially the removal of adenoids and tonsils, this apparatus is designed to keep the field of operation clear; to obviate the necessity of sponging, thereby reducing the number of assistants, and also to preclude the possibility of the patient aspirating or swallowing the exuded blood, etc.

25 Groton Building.

Infant-Feeding.—T. N. Gray, in *Archives of Pediatrics*, states that no amount of study and observation will equip a physician to treat any baby but the one which he can see, handle and examine. He believes that the artificially fed child has as much to fear from falling into the hands of a physician who has never thought of his individuality, or from a mother who is willing to feed it a modification advised by one who has never seen it, as it has from bacterial contamination of milk.

COUGH DURING AUSCULTATION IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

A PLEA FOR ITS ROUTINE EMPLOYMENT TO ELICIT FINE RÂLES:—TECHNIC AND CONVENIENT SIGNAL

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The diagnosis of active pulmonary tuberculosis by the average clinician depends quite frequently on the finding of fine râles. There are earlier physical signs, but in the absence of bacilli none is of so much significance.

The râles most important in diagnosing pulmonary tuberculosis are not heard during ordinary respiration. A light cough at the end of expiration may reveal, during the inspiration following, fine adventitious sounds, indicating a lesion, before the Röntgen rays will cast a shadow of it, long before the percussion note is impaired, and frequently before the normal respiratory murmur is modified. This simple expedient is described in most text-books on physical diagnosis and is resorted to by all expert clinicians. Its omission is even noticed at once by an experienced patient. But it is believed that the average busy doctor sometimes neglects it. The following description of the technic employed for several years by officers of the Public Health and Marine-Hospital Service at the Fort Stanton Sanatorium, is given, therefore, not with the idea that it is new, but rather to emphasize the importance of a well-established diagnostic procedure:

The usual inspection of the chest is first made, measurements taken, palpation and percussion completed and the gross pathology ausculted during quiet breathing and with spoken and whispered voice.

Breathing.—It is best in beginning auscultation to give no instructions as to breathing, because some will need no correction and are rendered so self-conscious by it that their normal rhythm is disturbed. In a large number of cases it will transpire that instruction must be given and it can be adapted to the individual case. Instances in which deep breathing is required are very exceptional, and, since it produces confusing muscular crackles, it is rarely useful in eliciting fine adventitious sounds.

Cough.—Just at the end of a normal expiration, at the signal, the patient gives a short and easy but audible cough. This expels part of the residual air and will be followed instantly by an inspiration, the first part of which will naturally be involuntarily accentuated. With stethoscope on the subject's chest the examiner disregards the muscular noises produced by cough and concentrates his attention on adventitious sounds during the inspiration immediately following. In some cases the first part of this inspiration is most fruitful in fine râles; sometimes they appear only near the close of the act.

Signal.—A signal system is necessary in directing the patient, because the examiner's voice will cause vibrations in his stethoscope. As the physician stands or sits opposite the erect form of his patient one hand naturally rests on the subject's shoulder or arm to afford the steadiness necessary in delicate use of the stethoscope. One finger of this hand can be used to give the signal to cough, with no more preliminary instruction than, "Cough once when I tap you." This may have to be supplemented a little later by, "Do not take a breath before you cough," or "Cough just as soon as you get the signal," and occasionally by the admonition, "Do not swallow after you cough," this act producing peculiar gurgles and coarse sounds. In exceptional cases a proper amount of residual air is not expelled in this way; in that case the instructions may be modified to, "When I tap you blow out your breath and cough." Advice is not usually required concerning the inspiration following. If part of the residual air has been expelled it will be right if naturally taken. But occasionally in a thick-walled, or poorly expanding chest, or in one in which a thickened pleura masks the situation, it may be desirable to accentuate the inspiratory sounds, and one may direct the subject to take a quick breath after the cough, or when signaled by two taps of the finger or by pinching the skin of the shoulder with the free hand. It may be repeated that a deep, muscle-stretching, rib-cracking inspiration is not desired to elicit râles.

Nothing is more painful to witness than a subject who has been directed to "cough" or to "take deep breaths." A very few minutes of such gymnastics are sufficient to exhaust even the most robust. But if such movements are under easy control the examiner can order them at appropriate times and judicious intervals without tiring his patient.

The physician who looks only for those gross lesions which manifest themselves by dulness, cavernous breathing, whispered pectoriloquy, coarse râles, etc., may err both in diagnosis, when these are absent, and in prognosis when the advent of new areas of involvement are overlooked while the older lesions are under observation. Those who give too much significance to some of the ultrarefined and doubtful physical signs, frequently make the opposite mistake. The amateur may be confused by a dry or hairy skin if he neglect to oil or shave the part, but the same man will elicit dulness over a healthy chest if he percuss it close to a wall, or miss an area of consolidation because he allows his pleximeter finger to bridge two ribs. In fact, if he allows no garment between his stethoscope and the skin and no folds of clothing near enough to move on the chest with squeak and rustle at every respiration, there is less chance of error in a properly elicited fine râle than in anything else the examiner sees or hears.

Technic by which to have patient cough at the desired time, during auscultation. A tap of the finger is signal for a short cough, at the end of expiration; a pinch, or two taps, for a quick inspiration.

Burns and Acidosis in Children.—In children, burns and scalds are frequently followed by acidosis and acid intoxication, particularly if the burn be superficial and extensive.—E. R. White, in *Australian Medical Journal*.

PELLAGRA, WITH THE ANALYTICAL STUDY OF FIFTY-FIVE NON-INSTITUTIONAL OR SPORADIC CASES

BEVERLEY R. TUCKER, M.D.
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Pellagra is a disease which has been known in Italy and other European southern countries for nearly three hundred years. It has since been reported from most semitropical countries from Asia Minor to Texas. In the United States isolated cases were several times reported, but the disease was not known to occur in quantity until 1907, when it was recognized independently by Merrill, Searcy and Babcock. Up to the present time probably five thousand cases have been recognized in the United States, chiefly confined to the south Atlantic states and one or two states in the middle west. The disease is unquestionably rapidly increasing in the United States and although it might have existed in this country unrecognized for many years, still it must have been extremely rare until 1907. It now bids fair to become a national problem.

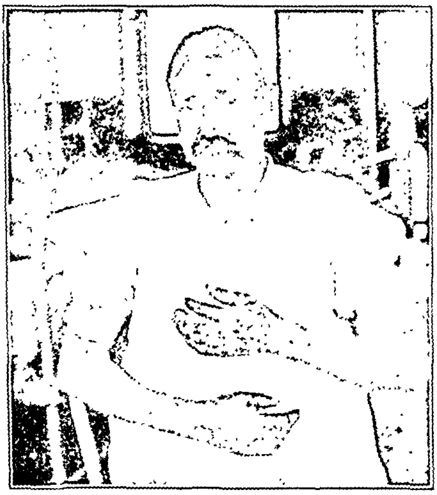

Fig. 1.—Author's case of pellagra, with lesions of the hands, forehead and alæ of the nose.

As pellagra is so frequently reported in numbers from the institutions for the insane, a fact to be positively ascertained is whether in these institutions the pellagrins were not admitted with the disease, either in the stage of remission or with its lesions unrecognized. The fact that pellagra has been considered a disease beginning in rural districts makes this question of great practical importance. Assuming that the disease does originate in rural districts, the cause must be looked for in these localities. On the other hand, if we can prove that the disease frequently originates in institutions, then there must be local, demonstrable and correctable causes to be found in these institutions.

The maize theory of causation has certainly not been proved. Taylor[1] quotes Palidino's observation that the use of good maize did not decrease pellagra in Mantua. Sambon and others state that pellagra is found where corn is neither grown nor eaten. Thorington[2] says that if spoiled maize was the cause of pellagra there would not have been enough southern soldiers left after the Civil War to rehabilitate the South. He believes it parasitic in origin. Among the theories of cause advanced Reed[3] gives the fungus *Diplodia zeæ* as a possible factor; Sambon believes the sand-fly to be the carrier of the infective agent; Rohrer[4] thinks it due to the fungus *Aspergillus fumigatus;* Auld[5] attributes the disease to a magnesium infiltration from the ingestion of maize; Tizzoni and Wood[6] have isolated a bacillus which they believe is the cause; Long[7] believes that amebas in the stools have a definite relation to pellagra, while Raubitschek[8] thinks the cutaneous lesions due to an alimentary poison, probably a lipoid constituent from corn, plus the chemical rays of sunlight.

Hyde, Lavinder and Griffin do not believe that pellagra is communicable and this view is generally accepted. As far as I have been able to learn no physicians, nurses or attendants have ever contracted the disease outside or inside of an institution from having attended patients with pellagra.

Pellagra occurs in two forms, one an acute fulminating form, and the other a chronic form with seasonal recurrences. The fulminating form runs a course of from a few weeks to a few months and is frequently fatal. If apparent recovery takes place the disease returns again the following year and may then be classed as chronic. The fulminating form has been called "typhoid pellagra," but for obvious reasons it is best not to use the word "typhoid." The chronic form occurs in two types. In one the disease appears in the spring, runs a course more or less severe during the summer, has almost a complete remission in the winter and recurs the following spring. In the other, a rare type, exacerbations occur both in the spring and in the fall with summer and winter remissions. In the chronic form the spring recurrences usually become more and more severe and the disease is usually fatal in from two to seven years. As the seasonal recurrences take place regardless of the ingestion of maize, this seems to be an argument against the zeist theory. It would seem only reasonable, if the disease was caused by maize toxemia, that when this toxin became so eliminated that a complete arrest of symptoms occurred there could be no recurrence.

SYMPTOMS

The symptoms of pellagra are numerous and will be taken up in detail in the analysis of the cases to follow. In general it may be said that they consist of three sets, the exact relation of which to each other has never been satisfactorily explained. The symptom-groups are gastro-intestinal, cutaneous, and nervous and mental. Most writers do not put them in this sequence but mention the cutaneous manifestations first. I feel confident, however, that this is erroneous, and the reason for it is that the majority of reported cases have been from institutions of the insane where diarrhea and gastritis are so common that the date of their onset in pellagra cases has not been noted.

Special examinations of the blood, urine, feces, eyes and temperature have thrown but little light on pellagra. A moderate degree of secondary anemia is almost a constant finding in the blood of pellagrins, and leukocytosis is not found unless there is secondary infection, as shown by the reports of Lavinder[9] and others. Fox[10] has found that the Wassermann reaction is not of value in the diagnosis of pellagra. Cole and Winthrop[11] have reported cases of transfusion of blood of supposedly cured pellagrins into patients with active manifestations with apparently good results.

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[1] Taylor, J. H.: New York Med. Jour., Dec. 18, 1909, Vol. xc, No. 25, p. 1208.

[2] Thorington, Chilton: Pellagra—Not Established that It Comes from Bad Meal, Gulf States Med. and Surg., January, 1910, p. 48.

[3] Reed, Howard S.: The Fungus *Diplodia* as a Possible Factor in the Etiology of Pellagra, New York Med. Jour., Jan. 22, 1910, p. 164.

[4] Rohrer, C. W. G.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 94.

[5] Auld, John: New York Med. Jour., Dec. 4, 1909, p. 1142.

[6] Wood, E. J.: The Appearance of Pellagra in the United States, THE JOURNAL A. M. A., July 24, 1909, p. 281.

[7] Long, J. D.: Pellagra, THE JOURNAL A. M. A., Aug. 27, 1910, p. 734.

[8] Raubitschek, Hugo: Pathogenese der Pellagra, Wien. klin. Wchnschr., June 30, 1910, p. 963.

Nothing typical has been found in the examination of the urine of pellagrins. In regard to fecal examination, Nichols[12] in the examination of the stools of eighty-eight patients found amebas in 37.5 per cent., while in 101 control cases they were present in only 11.8 per cent. There were 85.3 per cent. of cases with protozoa, while in the control cases there were 48.6 per cent. None of the fecal findings have been of positive value either as to the diagnosis or etiology. Hookworm disease, although having in the United States very much the same geographic distribution as pellagra, is in no way associated with pellagra. Pellagra patients may also have hookworm, but this is simply a coincidence.

The eye symptoms of pellagra have not been at all constant. Welton[13] examined the eyes of fifty-five patients and reached the following conclusion: "In none of the cases presenting eye symptoms could the character of the eye changes be regarded as pathognomonic of pellagra." Other observations are in accordance with this statement.

There is no variation in the temperature of uncomplicated cases of pellagra except during the late stages, when there may be an elevation. It is at least probable that this elevation may be accounted for by mental excitement or secondary infection in many cases.

PATHOLOGY AND DIAGNOSIS

The pathology of pellagra has not been put on a very definite basis and those interested are referred to the very interesting review of the subject by Harris of Georgia.[14] In reference to the pathology of the nervous system, he states that there may be noted degenerative changes in the chromophilic cells of the cortex of the cerebrum. In the cerebellum the cells of Purkinje undergo degeneration, which may account for the ataxia observed in some cases. In the cord cell-degeneration is noted and at times this goes on to cell-destruction. We have no positive evidence of alterations in the peripheral nerves.

The diagnosis of pellagra is easy in most cases if this disease is borne in mind. A positive diagnosis should not be made unless gastro-intestinal and typical cutaneous symptoms are present. *Pellagra sine pellagra* is an impossible diagnosis because in many cases of mental disorders there are gastro-intestinal disturbances. Noticeable nervous and mental symptoms may not appear until late and the disease may occasionally be diagnosed before their appearance. Conditions which may really be confused with pellagra are syphilis, in certain of its forms, and insanity with gastro-intestinal disturbances in which true sun-burn has occurred. I saw a patient with syphilis at the City Hospital, Richmond, presenting the symptoms of stomatitis, diarrhea, erythema, and nervous and mental disturbances, and diagnosed the case as syphilis because the eruption occurred on the palms as well as the extensor surface of the hands. On investigation the history of syphilis was elicited and the lesions and other symptoms disappeared in a short time under the mixed treatment.

There are some conditions which more or less resemble pellagra, the most prominent of which are leprosy, alcoholic polyneuritis and beriberi. In leprosy the skin lesions of certain forms constitute the most marked resemblance to pellagra. In alcoholic polyneuritis there may be gastro-intestinal, nervous and mental and cutaneous disturbances, but there is no seasonal remission and the skin lesions are those of neuritis and are not similar to pellagra.

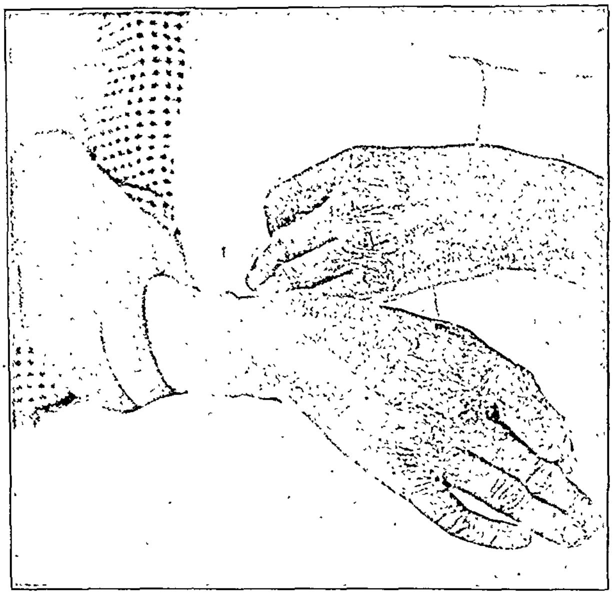

Fig. 2.—Lesions of the hands in a case of pellagra. (Courtesy of Dr. Paul N. Anderson, Morganton, N. C.)

ANALYSIS OF CASES

Having thus discussed the disease in general I shall now proceed with the analysis of fifty-five non-institutional or sporadic cases. A form containing over one hundred questions was used by me in obtaining these histories and this form was sent to physicians who were known to have patients with pellagra under their charge. Many of these patients were also seen by me. Thanks are due to Dr. Ennion G. Williams, chief health officer of Virginia, for the distribution of many of these forms, and I am especially grateful to the physicians who so cheerfully and carefully answered these questions. In this report all doubtful cases have been excluded and many control questions asked in order to take every possible precaution against error. It is to be regretted that complete laboratory studies were not made of more cases, but these cases occurred, for the most part, in rural districts where facilities were lacking and the cases often infrequently visited. This study was undertaken with the idea in mind that the analysis of cases occurring outside of institutions might be of especial value because the earlier symptoms, and at times, the onset of the disease, could be noted, and because light might be thrown on the epidemiology, the priority of certain sets of symptoms and because of the probability of a more intelligent history from patients who were not inmates of an institution for the insane.

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[9] Lavinder, C. H.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 33.

[10] Fox, Howard: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 33.

[11] Cole, H. P., and Winthrop, G. J.: Pellagra: Transfusion in Eleven Cases, THE JOURNAL A. M. A., April 22, 1910, p. 1354.

[12] Nichols, Henry J.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 60

[13] Welton, C. B.: Eye Symptoms of Pellagra: Preliminary Report of Examination of Eyes of Fifty-Five Patients, THE JOURNAL A. M. A., Nov. 13, 1909, p. 1636.

[14] Harris, H. F.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 86.

GENERAL HISTORY

Age.—In fifty-four of the fifty-five cases the age of the patient was given, the oldest being 76 and the youngest 6. The average age was nearly 37. The most frequent decade for the occurrence of the disease was between thirty and forty years, sixteen out of the fifty-four cases occurring in this decade.

Sex.—Thirty-nine patients were female and sixteen male.

Nationality.—Forty-two patients were stated to be white American, three others white, American or foreign birth not stated, and one white born in Ireland. Only nine of the patients were negroes.

Married or Single.—Thirty-seven of the patients were married, four widowed and fourteen single.

Epidemicity.—In ten instances there were other cases in the immediate neighborhood, in one instance the second patient was a sister of the first. The cases as a rule were widely separated geographically. In the state of Virginia, in forty-five consecutive cases, pellagra occurred in one county only in nineteen cases, two cases in a county in eight instances, three in two instances and four in one instance.

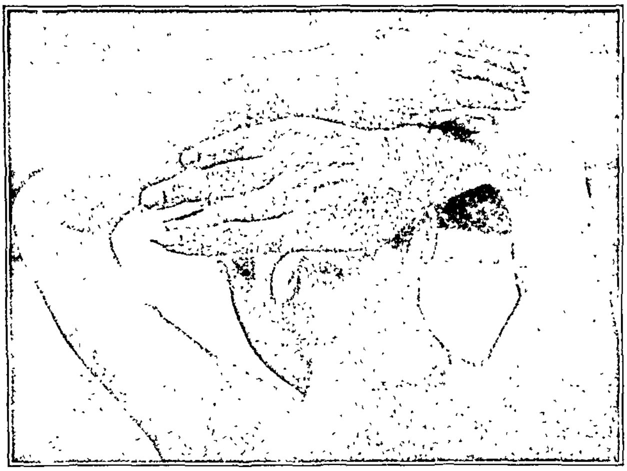

Fig. 3.—Lesions on the back of the hands and neck in a case of pellagra in a negro. (Courtesy of Dr. William F. Drewry, Petersburg, Va.)

Month of Onset.—Forty of the fifty-five patients stated the month of the onset of symptoms, four simply stated that the disease began in the summer, four others that it began in the spring and in two cases no date was given. In the forty-five cases in which the month was given two began in January, two in February, ten in March, nine in April, seven in May, nine in June, four in August, one in October, one in November, and none in July, September and December.

Priority of Symptoms.—Diarrhea was the first symptom in thirty-five cases, stomatitis in one and diarrhea and vomiting in one, making thirty-seven cases in which gastro-intestinal symptoms occurred first. Gastro-intestinal and skin lesions are stated to have begun simultaneously in seven cases. Cutaneous symptoms began first in ten cases, and in two cases it was unknown which was the first set of symptoms. In three cases the nervous and mental symptoms were stated to have been the first to appear, but on investigation these people were found to have been neurotic for many years. Where exact dates could be ascertained it was found in thirty-five cases that the gastro-intestinal symptoms preceded the cutaneous from one day to seven years; in twenty-seven of these cases three months or less, and in eight one month or less. In seven cases the cutaneous preceded the gastro-intestinal symptoms from two weeks to twenty-eight months; in six of the seven cases one month or less.

Hygienic Condition.—The hygienic condition was said to be poor in fifteen, fair in sixteen, good in twenty-one and excellent in three.

Ingestion of Maize.—Maize products were eaten regularly and formed the chief article of diet in twenty-nine cases, were eaten moderately in thirteen, very rarely in nine and in four cases it was stated that the patients never ate corn products in any form. It might be said that in one form or another maize is the staple article of food throughout this section. Eight of the patients drank corn whisky and four of these to excess. Of the thirteen patients who very rarely or never ate corn products only one drank corn whisky at all. Bread, batter bread, cakes and hominy were the most frequent forms in which corn was eaten. Forty-five answered the question as to whether corn syrup was used and if so whether it was fermented. It was used in eighteen of the cases and was said to be fermented in three. Of the eighteen patients who used corn syrup two of them rarely ate maize products in the other forms and one did not take corn in any other form. In the three cases in which the corn syrup was known to be fermented the patients ate maize products in other forms to excess.

Condition of Corn-Meal.—In twenty-two cases the meal was said to be good, in twenty-two it was unknown whether it was good or not, and in six it was known to be bad or spoiled. Some of the patients used store or shipped meal exclusively and others home meal exclusively.

Pernicious Habits.—One patient was addicted to opium, one to opium and tobacco, five used tobacco alone to excess, three used tobacco and whisky to excess, and five whisky alone to excess. This gives a total of fifteen patients whose constitutions may have been affected by these habits.

Constitutional Diseases.—Twenty patients had constitutional diseases in the past, nine had rheumatism, five malaria, two had syphilis alone, one syphilis and malaria, one malaria and rheumatism, one was paralyzed and one had tuberculosis. None of the patients had hookworm disease.

CUTANEOUS SYMPTOMS

All the patients had cutaneous symptoms.

Distribution of Skin Lesions at the Beginning.—In forty-four of the fifty-five patients the skin lesions began on the back of the hands and forearms alone, in forty-three of these cases simultaneously on both hands or forearms, and in one it began first on the right hand followed in a few days by involvement of the left hand. In seven patients the lesion began on the back of the hands, forehead and alæ of the nose and in three on the back of the hands and dorsum of the feet and in one on the back of the hands and neck. In all of the cases, or 100 per cent., the back of the hands and forearms were affected at the beginning.

Extent of the Cutaneous Lesions.—In twenty-eight of fifty patients who answered, the cutaneous lesions remained confined to the hands and forearms; in four cases the hands and feet were involved; in four hands, face and neck and in twelve hands, face, feet and neck. Two patients stated that the eruption was "all over the body," but in one of these the case was complicated with impetigo which seemed to be responsible for this involvement.

Character of Skin Lesions.—The epidermis was red and more or less rough in the beginning in practically all of the cases but turned dark in twenty-seven cases. In a few cases there was swelling and thickening of the skin and fissuring. Desquamation took place in fifty-one cases out of the fifty-five. The time of the appearance of desquamation varied from two weeks to six months after the appearance of the skin lesions, the average time being one month. Sloughing occurred in fifteen of the cases in from one to six months. In eighteen cases there was bullous formation. The lesions were stated to resemble eczema at the beginning in twenty-one cases, sunburn in twelve, erythema in three, dermatitis in two and syphilis, ring-worm, impetigo and poison-ivy in one case each.

After the lesions healed the appearance of the surface was noted in nine cases. It was glistening and usually reddish, in one case pale and in two dark or brownish in color.

Secondary infection occurred in seven of the fifty-five cases, furuncles in three instances, impetigo in one and ulceration in two; in one the character was not stated.

Remission in the skin lesions occurred in twenty-nine cases.

Exposure to the Sun.—The patients were exposed to the sun in thirty instances and in twenty-one cases this exposure was known to make the skin lesions worse.

MUCOUS MEMBRANE INVOLVEMENT

Stomatitis was present in forty-seven of the fifty-five cases. In seven cases other mucous membranes were involved, usually the anus or vagina.

GASTRO-INTESTINAL SYMPTOMS

These symptoms occurred in every case but one; vomiting in thirty-four cases, diarrhea in fifty-four cases, obstinate constipation in one case and diarrhea alternated with constipation in thirty of the cases.

Remissions occurred in the diarrhea in thirty-six cases. In some cases the remissions were very short.

Forty-three patients mentioned the macroscopic appearance of the stools, which varied from light gray to dark brown or green in color. In most instances they were watery. Mucus was noted in five and blood in one. (For examination of the stools see laboratory findings further on.)

NERVOUS AND MENTAL SYMPTOMS

Fifty-four of the fifty-five patients had nervous and mental symptoms. The onset of these was from a few days to a year and a half after the first appearance of the disease, the average time being six to eight weeks. In several patients who had been nervous for years it was noticed that the nervousness was made worse by pellagra.

Emotional Manifestations.—The temper was stated to be bad in twenty-eight cases, the patients were depressed in forty-four, and cried to excess in thirty-three. In twenty-one cases the patients were stated to have ceased laughing since the onset of the disease.

Memory was affected in forty-two cases.

Hallucinations and Delusions.—These were noted in seventeen cases, in five cases delusions alone, in four cases hallucinations alone and eight cases both. In the delusion cases all were of persecutory character but one. This patient had pleasant delusions. The hallucinations were the usual ones of sight and sound.

Homicide and Suicide.—None of the patients committed homicide or suicide; one patient attempted both, and five threatened suicide.

Nervous Symptoms.—Forty-nine patients were said to be nervous, forty-three restless and forty-six had insomnia.

Paralysis.—Four patients were paralyzed. One of these had hemiplegia, one paralysis of the sphincter ani and two partial paralysis of the lower extremities.

Tremor.—In twenty-eight cases tremor was noted, tremor of the hands in eight cases, of the tongue in two, of the hands and tongue in five, of the hands and lips in two, of the hands, face and tongue in one, of the body one, and nine patients did not state where the tremor was observed.

Trophic Disturbances.—In only five cases were trophic disturbances noted, unless we include skin lesions, and these consisted of thickening and roughening of the nails.

Station.—The station with the eyes closed was unsteady in twenty cases, normal in twenty and untested in fifteen.

Gait.—The gait was abnormal in twenty-four cases, variously described as slow, ataxic, weak or staggering. It was normal in twenty cases and unobserved in eleven.

Knee-Jerks.—In forty cases the knee-jerks were present, they were absent in six and untested in nine. In twenty of the forty cases the knee-jerks were exaggerated on both sides, in one exaggerated on the right and normal on the left, in four diminished and in fifteen they were normal.

Anesthesia.—Areas of cutaneous anesthesia were observed in twelve cases, in two of which they were only noted over the lesion. There was no anesthesia found in thirty cases and it was untested in thirteen.

Cramps.—Twenty-eight patients suffered with cramps in various places. Nine had cramps in the abdomen, legs and abdomen one, abdomen and arms one, legs six, back and legs one, legs and hands one, hands one, in the sides one, cramps general, three, and location of cramp unstated in four. In twenty-four cases no cramps occurred and in three cases it was unknown whether or not they had cramps.

Muscular Wasting and Weakness.—Muscular wasting was present in thirty-five cases, not present in seventeen and unobserved in three. Muscular weakness was present in forty-nine cases, not present in four and unstated in two.

Contraction of the Hands and Limbs.—In four cases there was contraction of the thumb across the palm, in one there was contraction of the index finger and in fifty there was no contraction of the hands. The extremities were said to be contracted a few days in one case, permanently contracted in one case, in two cases the question was unanswered and in fifty-one cases there was no contraction.

Tenderness over the Spine.—The spine was tender in nine cases, not tender in thirty-four and untested in twelve.

EYES

Size of Pupils.—Pupils were normal in twenty-eight cases, contracted in eleven, dilated in nine, right dilated and left normal in one, and untested in six.

Reaction.—In forty-three cases the pupils reacted normally to light, in six the reaction was untested, in five there was no reaction to light and in one the pupils were sluggish.

Exophthalmos.—Only one patient showed exophthalmos and that was said to be congenital.

Cataract.—Three of forty-five patients had cataract. (Also see sight under special senses.)

SPECIAL SENSES AND FUNCTIONS

Sight.—Change of sight was noted in eight cases; in one of these there was diplopia, in one photophobia and in the others simply diminished vision. In forty-one cases there was no change in sight and in six the condition of the sight was not noted.

Taste.—In twenty-one cases taste was diminished; it was "coppery" in one; there was no change in twenty-four and the matter was unobserved in nine cases.

Touch.—Patients noticed change in sensation when they touched objects in fourteen of the cases, sensation being diminished in thirteen and increased in one. Touch was normal in thirty and unobserved in eleven.

Smell.—Sense of smell was diminished in six cases, normal in thirty-eight and untested in eleven.

Hearing.—Hearing was diminished in five cases, normal in forty-one and untested in nine.

Sexual Power.—This was lost in five cases, diminished in one, normal in seventeen and the question unanswered in thirty-two.

Speech.—Difficulty of speech was noted in twenty-two cases, three of which resembled mutism; in four cases the speech was weak and in the rest the speech defect was not described. In thirty-three cases there was no speech difficulty.

GENERAL SYMPTOMS

Malaise.—Forty-nine patients suffered from malaise, in four there was no malaise and two cases did not answer.

Vertigo.—Thirty-six patients had vertigo, thirteen no vertigo and six did not answer.

Headache.—Thirty-five patients had headaches, but in most of these it was noted that the headache was slight or occasional.

Pain.—In thirty-four cases pain was noted; in seven of these cases pain in the back, eight pain in the abdomen, one back and abdomen, one extremities and abdomen, seven in the extremities, one pain all over, one pain in the side and one in the mouth. In the rest the location was not stated.

Pulse.—Pulse was normal in twenty-seven cases, rapid in seventeen and slow in one. The highest pulse-rate was 142 and the lowest 65. The question regarding pulse was unanswered in ten.

Temperature.—The temperature was normal in twenty-one cases, elevated in twenty-five, subnormal in four and unstated in five. In one case toward the end, the temperature was 106 F., but usually it was very slightly elevated and only elevated in severe cases.

Salivation.—An increase of saliva was noted in twenty-eight cases, the question unanswered in two cases and in twenty-five cases saliva was not increased.

Thirst.—Excessive thirst was noted in eighteen cases, diminished thirst in four; the question was unanswered in three; and thirst was normal in thirty.

Anemia of Mucous Membranes.—This was noted in forty-two cases, the question was unanswered in six; and in seven cases no anemia of the mucous membranes was observed.

Hair.—The hair over the body was normally grown in forty-one cases, scantily grown in eight, and two cases occurred in children in which the hair on the body had not developed. The question was unanswered in four cases.

Weight.—Fifty-two of the patients lost weight, in two mild cases the patient did not lose weight and in one case the question was unanswered. The loss of weight from the time of the appearance of the disease varied from 5 to 75 pounds.

Perspiration.—This was diminished in thirty-two cases, increased in three cases, normal in fourteen cases; and the question was unanswered in six cases.

ORGANIC DISEASES

Heart Disease.—The heart was examined and found normal in fifty-three cases and two patients had heart trouble.

Lung Disease.—The lungs were normal in fifty-one cases, in two examination was not made, in one tuberculosis was present and one case was suspicious of tuberculosis.

Genito-Urinary Disease.—In forty-five cases there was no history of genito-urinary disease; four patients had had gonorrhea in the past; one had had syphilis; in one case retention of urine was present, in one cystitis and in three cases the question was not answered.

LABORATORY FINDINGS

Urine.—The urine was not tested in twenty-seven cases, tested and found normal in twenty cases. In eight cases the urine was abnormal as follows: In one case specific gravity was 1,032 and indican increased, in one a trace of albumin, in one specific gravity was 1,040 and abundant phosphates, in one pus-cells, in one a moderate quantity of albumin, in one indican increased, in one indican increased and specific gravity was 1,031. Other than as mentioned the urinary examinations were negative.

Feces.—The feces were not examined in forty-seven cases and the stools were examined and found negative for parasites in eight cases.

Blood.—Partial or complete blood-examinations were made in eight cases. The hemoglobin was tested in five of these cases and ranged from 65 per cent. to 95 per cent. The red cells were counted in these five cases and ranged from 2,750,000 to 4,952,000. Three of these patients showed secondary anemia, one showed no anemia at all and in one case the hemoglobin was 70 per cent. and the red cells 2,750,000 giving a minus color-index, indicative of essential rather than a secondary anemia. This case gave only the usual clinical manifestations. The white cells were within normal limits in the four cases in which they were counted. The polynuclears were practically normal in the six cases counted, ranging from 68 per cent. to 80 per cent.; the lymphocytes and large mononuclears were normal in the six cases and the eosinophils were increased in one case only. All of the blood-examinations were negative for malaria.

Gastric Contents.—Gastric analysis made in one case showed nothing abnormal.

REMISSIONS AND MORTALITY

Of the fifty-five patients, eight are in their first year of the disease and alive, twelve died the first year of the disease, twenty-eight had remissions, three continued over a year without remission and it is unknown in four cases whether remissions occurred or not. Of the twenty-eight patients who had remissions sixteen have had only one each and the rest have had from two to five each. All the remissions were in the winter, but one patient had one remission in the fall and another in the late winter and one patient had three remissions, all of which were stated to have been in the summer. Most of the twelve patients who died the first year of the disease, died within the first six months. One died in five weeks.

TREATMENT

These patients were given various treatments, arsenic being the most popular. Some patients died while taking the arsenic and others had remissions. It is impossible to say whether the remissions occurred because of, or in spite of, treatment. Various local applications were applied to the cutaneous lesions but without beneficial results. Bismuth, opium, etc., were given for the diarrhea but in many cases it persisted while these remedies were being taken. In five cases I gave or suggested hexamethylenamin, with apparently very striking results. After three or four days the gastro-intestinal, cutaneous and nervous and mental symptoms began to clear up and the patients shortly went into a state of remission.

CONCLUSIONS

From these statistics the following are some of the conclusions which may be reached:

1. Pellagra may occur at any age from childhood to old age.
2. In the Southern states, although the negro forms the majority of the lower class, yet pellagra is most common in the white.
3. The disease, while affecting chiefly the lower classes, is occasionally seen among those of good hygienic and social surroundings.
4. The disease is widely spread and did not occur in local epidemics.
5. The disease in the cases reported is more common in rural districts than in the cities.
6. The majority of cases occurred in the spring and early summer.
7. The gastro-intestinal symptoms, especially the diarrhea, are usually the first manifestations of the disease.
8. The ingestion of maize or maize products, whether spoiled or not, is not alone the cause of pellagra.
9. Patients whose constitutions are depleted by pernicious habits or chronic diseases are not rendered thereby more susceptible to pellagra than those not so affected.
10. The backs of the hands are always affected in the cutaneous lesions of pellagra and the lesions are always symmetrical.
11. Exposure to the sun cannot account for the cutaneous lesions.
12. Stomatitis is almost a constant symptom.
13. The nervous and mental symptoms conform to no known nervous disease or form of insanity.
14. The nervous and mental symptoms form no distinct clinical entity.
15. The eye symptoms are not pathognomonic.
16. Emaciation is practically constant.
17. The special senses are only occasionally affected.
18. Pellagra is not *per se* a febrile disease, and when an elevation of temperature occurs it may frequently be accounted for by a complication.
19. A moderate anemia is found in most of the cases.

20. The heart, lungs and genito-urinary organs do not seem to be particularly affected by pellagra.

21. Examinations of the urine, feces and blood show nothing pathognomonic of pellagra.

22. The cause of pellagra is unknown and the study of these cases throws no positive light on the etiology. Patients may have pellagra who do not eat corn products. Sunlight does not account for the condition. In these cases no parasite, toxin, bacteria nor insect has been isolated as being the causative factor.

23. The disease is not communicable by ordinary contact.

24. Three great systems are affected: the digestive tract, the cutaneous surface and the cerebrospinal and peripheral nervous systems and their involvement seems to be in the order, named.

25. Remissions occur in over half of the cases.

26. Death frequently occurs in the first attack.

27. It is too early in the study of the disease in this country to estimate the mortality. Probably 50 per cent. die during the first two years.

28. In these cases it cannot be said that any patient is more than apparently cured as it may simply be a remission.

29. No specific cure for the disease has been found, and the remedies in general use are of doubtful value. Hexamethylenamin may possibly have curative properties.

SOME STATISTICS OF OTHER CASES

Return postals were sent to various institutions in which pellagra was thought to exist. Replies were received reporting 598 cases. The question was asked, "How many of your patients are known to have died of pellagra?" It was found that 226 of the 598 patients had died, leaving 372 living or unaccounted for.

Another question asked was, "How many living patients failed to show symptoms the following year?" Replies indicated that there were 157 which showed no symptoms to Aug. 1, 1910.

A third question was in regard to the best remedial agencies. Iron and arsenic, especially atoxyl, were used in most of the cases. The administration of these preparations, however, was not followed by brilliant results.

REMARKS

The cause of pellagra remains a mystery; the prognosis is grave, and as yet treatment is inadequate. The disease is one of problematic interest to the hygienist, the internist, the dermatologist, the neurologist and the alienist. We can not believe that a disease so serious and with such striking characteristics can have existed in the United States for more than a few years without recognition. It therefore behooves us to investigate all theories as to its cause from an impartial standpoint, until the cause is absolutely proved, and to adopt as far as practicable such suggestions for its treatment as may seem reasonable. In regard to the latter, it would be advisable to send pellagra patients to the far north before spring sets in and see if the colder climate would prevent recurrences. Several patients have told me that in the winter remission they felt ill on warm days, and one stated that the back of the hands would redden temporarily on these days. We might also try protecting exposed parts with gloves and veils.

The hexamethylenamin treatment was tried by me because of its property of forming formaldehyd in the body secretions and because of the probability of pellagra being an infectious disease, the exact character of which is unknown. Hexamethylenamin was given to five patients in doses of from 5 to 7.5 grains four times a day over a period of about three weeks, and all other treatment discontinued. Two of the cases were so severe that it looked as if death would be the only outcome while the other three cases were of moderate severity. Such prompt and striking improvement followed the administration of hexamethylenamin that although the number of cases in which it was used is very small I feel that it deserves a more extensive trial.

208 East Franklin Street.

DISCUSSION ON PELLAGRA

At the St. Louis Session of the American Medical Association, June, 1910, the Section on Dermatology devoted Wednesday and Thursday mornings to the presentation of cases of pellagra and the discussion of that disease.

WEDNESDAY MORNING SESSION

Dr. R. P. Price, Nevada, Mo.: I take pleasure in presenting two patients, both inmates of State Hospital No. 3, Nevada, Mo. They were treated for some time before we were aware of the character of the disease. The first case began with malaise and loss of appetite, followed in a short time by diarrhea and stomatitis and inflammation of the backs of the hands; there was also a small girdle extending around the wrists. These symptoms were treated symptomatically with little avail. I put the patients on iron, quinin and strychnin, Fowler's solution, with fruits and lemonades every two hours. This seemed to clear up the symptoms for a while; however, they returned in two or three weeks. The second patient has been in the hospital a little more than a month. The only symptom on admission was an inflammation on the backs of the hands. The diagnosis of her mental condition was maniac depressive insanity. She has run a subnormal temperature throughout the entire course. At this time she has developed diarrhea and stomatitis. I have two other cases at the hospital which developed in the same wards that these patients were in.

Dr. A. Ravogli, Cincinnati: Pellagra is most commonly observed in Italy among the poorer classes and has been called a disease of poverty. It is supposed to be due to the fact that during certain seasons of the year these people are compelled to subsist on decayed or unripe maize which takes a greenish appearance. This, in many families, forms the staple article of food during the winter months. Under the microscope, this unripe green maize shows a peculiar fungus which has been called *Sporisorium maydis*, and it is to this that the occurrence of pellagra has been attributed. These patients after a time take an aversion to this article of food, and complain of burning of the throat. This is followed by gastric and intestinal symptoms, usually diarrhea. This constitutes, practically, the first stage of the disease. Afterward, there is an erythema of a deep, brownish color, affecting the backs of the hands and the forehead and neck—usually the parts exposed to the sun. The eruption becomes scaly in character and disappears in the cold weather, leaving atrophic scars. This skin manifestation is characteristic of the disease. These patients usually improve during the summer, when the quality of their food is better. In the more advanced cases the mental faculties begin to fail, and many of these patients commit suicide, usually by drowning. Others die of some complication or from the intestinal symptoms, colliquative diarrhea. The prognosis of the disease in the early stage is not so bad, and I have seen many patients improve under better hygienic surroundings and tonic treatment. In the later stages, the prognosis is absolutely bad and only death can relieve the patients from their miserable condition.

Dr. James W. Babcock, Columbia, S. C.: We are all inclined to regard pellagra as a new disease in this country.

As a matter of fact, it was reported in the United States as far back as 1864, and since then it has been observed in many institutions. Cases have now been reported from 28 states. It is prevalent in some of the asylums in California, and recently a number of cases have been found among the inmates of Blockley Hospital, Philadelphia. To-day, pellagra in this country presents a very momentous question. As to the etiology of the disease, I do not think that Americans are quite prepared to accept the maize origin of the disorder. The theory that it is due to a specific infection by a parasite has been advanced notably by Sambon of London and the strong resemblance that has been noted between this disease and sleeping sickness is suggestive that it is communicated by a gnat or sand-fly. One of the striking features of the American type of pellagra is its high mortality. In Alabama, in one asylum, the mortality was 68 per cent. In one of the public institutions in Columbia, South Carolina, out of 605 admissions, 92 had pellagra, a percentage of 15. Another interesting feature is the variety of mental symptoms shown by these patients. They are usually described as those of melancholia, although they may manifest themselves in many forms, from simple neurasthenia to manic-depressive insanity, and may even simulate general paresis of the insane. It has been truly said that when we know what pellagra is, we may have a much better understanding of insanity itself.

Dr. William T. Corlett, Cleveland: The cases of pellagra that I have seen in this country have been of a severe type; much more severe than I have seen in other countries. Most patients here find their way into asylums, while in some foreign countries, notably the West Indies and Egypt, one sees more cases outside of institutions—in short, there the affection seems less severe. In this regard it may correspond to many other diseases which at first, when new in a country, manifest themselves in a more severe type. As to the distribution of the disease in this country, in Ohio we have had one case of pellagra, so far as is known, and in the clinics of the large American cities, men who are familiar with the disease have not reported it, except in one or two instances. This shows that pellagra in America is mainly confined to certain localities. In the recognition of the disease, we must remember that pellagra is a constitutional disorder, and that one cannot with safety make a diagnosis from one symptom alone.

Many cases of pellagra, even those shown here, although in one the skin lesions are typical, could scarcely be recognized from the cutaneous lesions alone. Other skin eruptions, such as simple erythema, inflammation, or eczema, may resemble the skin lesions of pellagra so closely that even the most skilled are liable to be mistaken. In the first case shown to-day, the condition of the mucous membranes is also typical, but the simple pigmentation of the skin is not sufficient to rest a diagnosis on, because it may be due to various causes. I have a colored photograph of a case of eczema which might well be mistaken for pellagra, but in my case we have only cutaneous symptoms.

Dr. Ravogli has stated that the poorer classes in Italy subsist largely during certain seasons of the year on damaged corn, and this has long since been advanced as the chief etiologic factor of pellagra. In this country, however, so far as we can trace, the disease is not limited to communities where corn is freely used as an article of diet. We have no positive proof thus far that Indian corn is responsible for the disease in this country. It may be that the use of corn in large quantities predisposes to the disease, but we are not in a position to condemn Indian corn as the sole etiologic factor of pellagra.

Dr. James W. Babcock, Columbia, S. C.: Pellagra in this country is by no means confined to institutions, nor is it limited to the poorer classes. A number of cases have been reported among well-to-do people. The disease, so far as we know, is not communicable in the ordinary sense of that word, although there are instances in which several members of the same household were affected. There is no doubt that there is an extraordinary relationship between pellagra and insanity. Preexisting insanity is apparently a predisposing factor. The skin lesions of pellagra are not confined to the exposed surface, and many of these patients have lesions about the thighs, vulva, and anus. Cases have been reported in which women who have been operated on for relief of neurasthenic conditions have immediately afterwards developed the lesions of pellagra. There is still a great deal of mystery about this disease. We have just learned enough about it to warn us not to be too dogmatic in our assertions regarding it. I have seen a few cases in which there was glandular enlargement; in a case which I saw recently the parotid was enlarged before the appearance of the dermatitis. It is claimed that the disease is always associated with neurotic symptoms, although these may not be pronounced. As to the time of its occurrence, there is no age limit: I have seen it in a child in arms and in very old people.

Dr. J. M. King, Nashville: We do not know how pellagra is transmitted, nor whether the germ is a fungus or a protozoon. With reference to communicability we have had some very interesting cases in the south. In one institution, a Baptist orphanage, 17 cases have developed, the disease being introduced by a child 3 years old. That child was a member of a family of four, and all four later developed the disease. Following this, 12 or 13 other children in the institution became similarly affected. Whether the mode of transmission is by a fly or some other insect or through the food, we do not know. In the country, several miles from Nashville, a woman developed the disease, and shortly afterward her husband became similarly affected. In another case, the disease was apparently transmitted by the washing of clothes and I have heard of several instances in which the disease affected two persons who were intimately associated. In the family of a Methodist minister the wife and daughter contracted the disease in rapid succession. I have seen the disease among the very best classes—white people in the better walks of life. In treatment, for the stomatitis I have found that a solution of silver nitrate, from 10 to 15 grains in glycerin and water, together with applications of peroxid of hydrogen, gave the best results, and internally I give a tonic mixture of iron, quinin and strychnin. This treatment should, of course, be combined with good food and a hygienic environment.

Of the 17 cases that developed in the Baptist orphanage, 2 patients have died, and one is now in the terminal [illegible] of the disease. The others are at least temporarily fre[illegible] the disease. From the observation of our cases and the [illegible] mortem findings, we have come to the conclusion that [illegible] is primarily a disease of the alimentary tract. The skin becomes so susceptible to the rays of the sun that an erythema is produced. I recently saw one patient who had the disease for 2 years, and in whom the skin manifestations did not appear until a week or so before death. It is unquestionably a constitutional disorder, and probably of gastro-intestinal origin. The diagnosis rests on the skin lesions and the patient's mental condition.

Dr. John D. Long, Washington, D. C.: During the past few months, I have been making some studies and observations of pellagra in South Carolina, and have been particularly interested in the microscopic findings in the stools of pellagrins, namely, muscle fibers, starch, crystals of various kinds, fats, oils, mucus, pus, blood, vegetable cells and fibers, and parasites, such as amebas, flagellates, ascaris, uncinaria, trichuris, oxyuris, etc. These findings are of interest in connection with the possible etiology of the disease. I was inclined to believe that the disease was due to some intestinal toxin, and this view was strengthened by the fact that in the milder cases, those that were not too far advanced, the mental symptoms were relieved very markedly by free elimination through the intestinal tract. In the more advanced cases the patients who were actually insane did not respond so well to treatment. The result of x-ray findings in these cases showed the presence of a number of spinal deposits, with pressure on certain spinal nerves and consequent interference with the function of those nerves. The presence of these spinal deposits was verified in one case which we had an opportunity to examine post mortem.

THURSDAY MORNING SESSION

Dr. George A. Zeller, Superintendent State Hospital, Peoria, Ill.: It is through the courtesy of the Governor and the Board of Administration of the State of Illinois that I am able to show these seven cases of pellagra. In 1908, roundly speaking, about 1,000 cases of pellagra were reported in this country; in 1909, 5,000 were reported, and this year the number seems to be increasing in the same proportion. The disease is characterized by slow but constant extension. It has been known in Italy for over a century and a half, and has been the object of careful study there by Lombroso and others. In the patients brought here this morning, the pigmentation of the skin, especially on the backs of the hands, which is usually very characteristic of the disease, is not very pronounced at this season of the year. While it is not believed that pellagra in this country has existed in the past to the same extent as it does now, still there were probably many cases that went unrecognized, especially in public institutions, and in retrospect now we see that in the insane patients in whom we had to apologize for the condition of the hands and arms we were really dealing with cases of pellagra. The public is gradually waking up to the importance of this disease, and in Great Britain, the king has recently appointed a commission to study the spread of the disease throughout the empire. The Governor of the State of Illinois has also appointed a commission, headed by Dr. Frank Billings. Many who have given this subject their consideration are taking a middle ground between the unconcerned and the alarmists. I represent the latter. I really feel that the situation is alarming. These patients have been brought here for study and instruction. All have been officially declared insane, and they have been in the hospital for varying lengths of time. In these patients, at present, the intestinal symptoms are lacking, but they will come later.

Pellagra (Italian, *pelle*, skin, and *agra*, rough) was first described by Frapolli in 1771. It has also been known as Alpine scurvy and sunstroke of the skin. It has been confused with leprosy, eczema of the hands and other cutaneous affections. Many unsuspected cases have recently been discovered in various public institutions. The U. S. Government, through Captains Siler and Nichols of the War Department and Dr. C. H. Lavinder, of the Public Health and Marine-Hospital Service, is now investigating the subject abroad, and Dr. John D. Long, of the latter service, has been pursuing investigations along similar lines in the South. In a city of 75,000 people, I recently saw a woman who had this disease for 7 years. She had been treated, at various times, by 12 physicians for supposed eczema and other conditions. Finally, she consulted a physician who had seen some of these cases at our institution, and he was able to make a correct diagnosis. She died recently with an undisputed history of the disease dating back 7 years. There are doubtless many similar cases in various cities throughout this country—cases of pellagra that have gone unrecognized, and the disease may be extending gradually, as has been the experience in Italy. Illinois was the fifteenth state in this country to report pellagra, and since then, cases have been reported from ten additional states. There has been some talk of a national congress for the study of pellagra this summer, but I question whether this would be an opportune time for such a meeting. I think it would be better to wait until the men who are studying the disease abroad are prepared to give us the results of their investigations, and in the meantime those men who have the opportunity should take up this work as a special study and learn what they can in regard to this mysterious malady.

As to the treatment of pellagra, we have had the best results with arsenic. On the theory that the causative factor of the disease was intestinal and due to the presence of a parasite or ameba, it has beeen suggested that the bowels be flushed through an appendicostomy wound, but so far nothing has been done along that line.

Dr. James W. Babcock, Columbia, S. C.: Dr. Zeller and I can tell you frankly that anyone who shows special interest in pellagra, or who tries to direct the attention of the medical profession to this important subject, is going to be criticized not only by the laity, but by our own profession as well. In the South Carolina asylum there were last year 605 admissions, and of these, 92 patients had pellagra, and because I have attempted to call attention to the importance of this subject, a brother physician, a fellow member of the South Carolina State Medical Society—who happened to be also a member of the state legislature, announced before that body that "Babcock is crazy on pellagra."

The subject of pellagra is a momentous one, particularly to the alienist. Two and a half years ago it was generally unrecognized in the United States. We are frequently told that it is a new disease, but when we look back to the musty records of the past, we find that two cases were reported by asylum physicians as far back as 1864; one by Dr. Tyler, of Somerville, Mass., and one by Dr. John P. Gray, of Utica, N. Y. Dr. W. J. W. Kerr, now of Corsicana, Texas, who was assistant physician of the Andersonville Prison during the Civil War, is satisfied that one of the causes of the mortality in that institution was due to pellagra. In 1883 a case was put on record by Dr. Samuel Sherwell of Brooklyn, N. Y. Subsequent to that, other cases were reported again by Dr. Sherwell and by Dr. Harris of Georgia. The first epidemic was reported by Dr. George H. Searcy, of Alabama, in 1907, who discovered a number of cases in the state insane asylum for negroes at Mt. Vernon, and in the same year I independently reported the presence of pellagra cases in the South Carolina Hospital for the Insane. Since then, patients suffering from this disease have been found in many other asylums, and to-day we have records of pellagra cases in 28 states, including California, where the disease is believed to have existed in one institution for the past 7 years. I have no doubt that there are at least 5,000 cases of pellagra scattered throughout this country, from the Atlantic to the Pacific, and from the lakes to the gulf. If I did not know from personal experience what unkind things have been said of physicians who have directed attention to this subject, I should be unwilling to admit that one medical man would raise his voice in criticism of another who is making an effort to emphasize the importance of the situation we are facing to-day. If pellagra has existed in this country for some years why was it not recognized earlier? Simply because the great medical authorities told us that it was an Italian disease. Osler, in the edition of his "Practice of Medicine" prior to the latest, says that pellagra has never been observed in the United States. I know a brother physician who recognized pellagra in the South Carolina penitentiary in the eighties, but abandoned his diagnosis for lack of authority from the medical writers he consulted. Five years ago, at a meeting of the South Carolina State Medical Society, an unmistakable case of pellagra was brought before one of the very best diagnosticians in the United States; he studied the case for an hour and then said the patient had "glossitis." Yet, in the face of all this, we are told that we are crazy about pellagra; but after a physician has seen patients die of this prevalent and loathsome but unrecognized disease, and at last thinks that he has light upon a dark subject, he is bound to raise his voice in warning in regard to this insidious and fatal malady. Let me say in passing that Dr. Walter Wyman, the head of the U. S. Public Health and Marine-Hospital Service, more than anyone else in the United States, deserves our gratitude for the manner in which he has taken hold of the pellagra problem. He was broad-minded enough and strong enough to say, in 1908: "Yes, we will investigate this disease," and he has never taken a backward step, although, like the rest of us, he has doubtless been subjected to criticism for the continued activity he has shown. Captains Siler and Nichols of the U. S. Army have also been very active in the matter.

Dr. Marcus Haase, Memphis, Tenn.: My experience with pellagra has been limited to 23 cases last year, and 6 cases so far this year. They have all been outside patients—not institutional cases. They either came to the hospital, or else I saw them in consultation outside with their physicians, and they were not cases in which the mental symtoms were pronounced. Of the 23 patients whom I saw in 1909, 5 died. The age of the youngest of my patients was 3 years, and the oldest was 70. I would hesitate to make the diagnosis in these cases from the skin lesions alone: other symptoms are necessary for a diagnosis. As to the causative factor in these cases, the corn theory has not been taken into consideration at all, excepting that cereals have been excluded from the diet of these patients.

Dr. Tinsley Browne, Hamilton, Mo.: I wish to report a case of pellagra that occurred in Northwestern Missouri, of about 3 years' standing. It was the first case of the kind I had seen, and I did not know what it was. The patient's hands first broke out with what was supposed to be sunburn. Then he developed an uncontrollable diarrhea and gradually became insane. The eruption on the hands recurred the following year. The man was a dentist, 55 years old, and had been a great user of the corn products.

Dr. Oliver S. Ormbsy, Chicago: The commission appointed by the Governor of the State of Illinois to investigate pellagra is engaged in various ways getting information both clinical and experimental but has nothing to report as yet. During the winter while the disease has been in abeyance, the work has been directed largely toward investigation of the corn and other food products. There is a special hospital at Kankakee where pellagra patients are kept under observation and it is hoped to accomplish something in this study. We all feel greatly indebted to men like Dr. Zeller and Babcock who through their enthusiasm and knowledge have awakened both the official and lay public to the importance of the subject and thereby made such an investigation possible. In regard to the diagnosis of pellagra, some mistakes have of course been made. Cases of eczema and other skin conditions have been erroneously diagnosed as pellagra. When this subject first came up, physicians visited the hospitals and saw these patients, and then went over the records, thinking that perhaps some cases might have escaped notice, but in this respect their experience was different from what it had been in connection with other new diseases. In the early experience, in blastomycosis, for example, we were able to recall unrecognized cases in the past, and the same is true of sporotrichosis, but it was not so of pellagra. We could not find the record of a single case in the past that we felt sure was an example of this disease.

Dr. Howard Fox, New York: It is perhaps presumptuous for a New York man to discuss pellagra on this occasion as in New York we have seen almost no cases of the disease. The interest which pellagra has excited among physicians in New York was shown at one of our meetings last fall when Dr. Babcock and Dr. Watson read papers on the subject. Reference has already been made to the two cases that have been seen and reported by Dr. Samuel Sherwell of Brooklyn. Dr. C. H. Lavinder has also seen a case at the Marine-Hospital on Staten Island. Another case of pellagra has been seen at Ward's Island and still another recently at Newark, New Jersey. The subject is of particular interest to me from its dermatologic aspect. From the descriptions in the text-books and especially from the excellent volume of Ludwig Merk there is no question in my mind that many of the cases seen in this country are identical with the cases of pellagra abroad.

Dr. Isadore Dyer, New Orleans: I had the privilege of studying the cases of pellagra which were investigated by Dr. Searcy during the first outbreak which was noted in this country, and which was, perhaps, the chief cause of inciting interest in this unusual disease. Since then, the city of New Orleans has produced a considerable group of cases of pellagra derived from the neighboring cities and located in the Charity Hospital. Comparatively few cases have occurred in the State of Louisiana proper. There are two insane asylums under the public direction, and in both of these a number of cases have been observed in the past few years. The statement that pellagra exists in this country I wish to endorse as a dermatologist, and say that in my opinion, it is a new disease. The first case I saw was sent to me by a country physician of Alabama who recognized it as pellagra. This was prior to the study of the Mount Vernon cases by Dr. Searcy. I did not concur in the diagnosis of the case sent, regarding the condition as a toxic erythema and treating it as such. This patient ultimately recovered, which strengthened me in my belief that the disease was not pellagra. My later observations of other similar cases led me to change my opinion of this original case, and to accept the diagnosis of the country physician that the case was one of pellagra. In regard to the care of this disorder, my experience has been limited to about 10 cases. I have seen patients in New Orleans in various stages of the disease, largely under the direction of Dr. Bass, who has done a great deal of work in connection with pellagra in Louisiana, and who has observed more cases than any one else in the city.

I am not an alarmist in relation to pellagra; I am a conservative. I believe that this is a disease which may be cured, and I am prompted to make this statement from my own results. In some of my cases, the disease was so far advanced that the patients made their own diagnosis. While there are certain skin diseases which are liable to be confused with pellagra, I differ with those who claim that the skin lesions of this disease are not distinctive and cannot be differentiated from ordinary sunburn. While there are atypical cases which it would be difficult to recognize, there are classical cases in which the skin lesions are characteristic. In my investigation of this disease, which has beeen limited, I have learned to class these cases as belonging to the erythema group, and the internal or other evidences which they present argue in favor of that belief. I consider a persistent erythema limited to the hands, neck and chest as almost as strong a diagrammatic confirmation of pellagra as are the lesions of leprosy or those of tubercular syphilis. In the treatment of all my cases of pellagra I have used quinin hydrobromate, and even in advanced cases, with stomatitis and diarrhea, I have often given 10 grains 3 times daily, and have kept it up until those symptoms have been controlled. The dose can then be reduced. In addition, I have used arsenic, which I believe is of distinct service. None of my patients has died, and some are now free from the symptoms of the disease. I believe that quinin is of great service in the treatment and cure of pellagra.

Dr. A. J. Vance, Harrison, Ark.: Pellagra is described as a disease of Southern Europe, and until recently it has been considered foreign to our list of ills. The first report of the disease was in Spain in 1735, about 40 years after the introduction of Indian corn. Frapolli of Milan was the first to describe the disease and to call it pellagra (in 1771). He declared it had existed since 1578, and since then Italy has been a hotbed for it. In 1884 the mortality was 13 per cent. In 1905 it had been reduced to 4.3 per cent. and in 1907 it had been still further reduced to 0.7 per cent. Marzari was the first to call attention in 1810, to the relationship between the use of corn and pellagra. Vincenzo Setti in 1826, asserted the main cause of pellagra to be a fungous growth on the corn, producing decomposition of the oils in the corn. In 1776, an ordinance was passed in Venice prohibiting the sale of corn having a bad taste or odor. There is nothing to indicate that pellagra is caused by corn *per se*, but by corn not fully matured and which has been stored in damp places and allowed to mold.

With the limited experience of physicians in the United States, the prognosis is considered grave. Statistics are meager and unsatisfactory, based on asylum cases which give a mortality of 67 per cent. of the patients; 10 per cent. become insane and these rarely ever recover. Pellagra is essentially a chronic condition. Pellagrins are said to live from 20 to 30 years. The disease is also liable to recur months after recovery seems to be complete, and death frequently follows the second or third attack. In addition to the eruption on the dorsal surface of fingers and hands which is very much like sunburn, we find diarrhea, sick stomach, stomatitis, and ulcers on mucous surfaces, in mouth, rectum and vagina; later the patient is nervous and probably delirious.

Has Dr. Babcock observed a peculiar odor of the feces so characteristic that a diagnosis can be made? Dr. Cole of

Mobile has been getting good results from the transfusion of blood from cured pellagrins, and even from healthy persons who have never had pellagra. If Dr. Babcock and Dr. Zeller are crazy on the subject of pellagra, we should be thankful for such insanity. This is a serious problem, one which many of us will be required to meet.

Dr. James W. Babcock, Columbia, S. C.: Physicians are waking up to the fact that pellagra is a big subject, and to the asylum physician it is a different problem from what it is to the dermatologist. To the asylum physician it is a very serious question. We deplore the notoriety the subject has received through the newspapers, and we are willing to admit that there is at present in this country more or less pellagraphobia. Still, it may not after all be entirely unfounded. Dr. J. D. Long recently visited Blockley Hospital in Philadelphia, in consultation with the local staff and among the patients there he recognized 9 cases of pellagra, and 16 suspects. This shows that the disease is gradually being observed north of Mason and Dixon's line. Some French authorities have stated that there were probably only certain classes that were susceptible to this unknown toxin, those who eat maize, alcoholics and the insane. Dr. Vance referred to the peculiar odor of the stools of these patients. There may be some grounds for this belief, and I know nurses who state that such is the case. There is perhaps as much foundation for it as for the belief that smallpox has a peculiar and characteristic odor.

DISCUSSION ON THE SANITARY OUTHOUSE

At the St. Louis Session of the American Medical Association, June, 1910, in the Section on Preventive Medicine and Public Health, Dr. Charles W. Stiles, Washington, D. C., exhibited some models of privies, such as have been illustrated in his article issued by the government.

Dr. Charles W. Stiles, Washington, D. C.: The average privy in the country districts is ventilated between the boards and every other way, is open in the back, and is not over an excavation. From it there is bound to be a spread of the various soil pollution diseases: typhoid fever, amebic dysentery, bacillary dysentery, hookworm disease, etc. It is the exception that I find a privy of a better type than that on the farms. It is my belief that I do not usually find, medically speaking, a better type of privy in the suburbs of cities; although, from the standpoint of construction, the suburbs usually have a much better type. One can readily see how disease can spread from such a structure.

After studying the matter from several points of view, I have prepared a design for a sanitary privy. It must be private, must prevent the spread of disease, and must be cheap. My design can be built, so far as the material is concerned, for from $5 to $10, the cost varying according to the price of material in different localities. It is closed in the back, and underneath is a water-tight pail, tub or barrel. There should be cleats, so that that pail will always center; and it is best to have the top of the pail come snugly up to the seat. By using a fluid disinfectant, or simply water, with a cup of kerosene oil on top of it, the flies can be kept away from the excreta. If a fluid is used, the pail must be deep enough to protect from splashing.

One of the great problems of the outhouse is to make the privy as little disagreeable as possible. One reason why people avoid the privy in hot climates is that it is a disagreeable place. To overcome that point I have put in five ventilators. The door should close of its own accord, with a spring. Most house privies have from two to four seats. I see no advantage in that; and the expense can be reduced by having a single seat. There should be a lid to the seat, so arranged that as soon as a person rises the seat will fall of its own accord. For children, a separate smaller seat can be used, shoved into place according to necessity.

This privy is protected against flies in various ways: first, by the screens, by the automatically closing door and cover-lid, by a tight door in the rear and by the use of a fluid disinfectant. The fly protection can be carried one point further by painting the privy dark. Flies are attracted by light colors, mosquitoes by dark colors; but I think the flies are amply guarded against by the ventilation, the fluid in the pail, the screens, the automatically closing doors, and the rear door (for removal of pail) falling down so that it has to be raised.

The Public Health and Marine-Hospital Service issues a reprint giving the carpenter's estimate for the lumber, showing the lumber sawed up into the proper shapes, and giving full instructions from beginning to end, so that any schoolboy of 12 or 14 years of age can construct a sanitary privy for his home. Recently I have induced some of the schools in the South to introduce the sanitary privy as one of the regular objects to be constructed in the manual-training classes. They can just as well build a privy as anything else.

Dr. J. N. Hurty, Indianapolis: I hope that the papers of the land will soon—say within the next year or two—commence to appreciate the work of sanitarians. As we know, there are 2,000,000 people in the South rendered inefficient, made burdens on the states in which they live, and all because of a preventable disease. When first pointed out by Dr. Stiles, his first reward was ridicule. I don't know that the papers have ceased ridiculing it yet; I would not be surprised to find that they are still making fun of this great discovery of the cause of so much misery, so much inefficiency, so much sickness and so much shortening of life; but let us hope that they will get hold of the idea presently. This is not a savory or beautiful subject, but it is very important.

Dr. Charles W. Stiles, Washington, D. C. [Replying to questions asked by several members]: As to the destruction of infection by disinfectants, sufficient studies have not yet been made. Any thing which will keep oxygen from the hookworm eggs acts toward destroying them. At the same time, we must recall that in the dry-earth system the night soil is not sufficiently covered with dirt, and we cannot get people to keep them covered. I am coming to the view that a fluid disinfectant, if only water and kerosene oil, is perhaps after all the safest; but that point is still *sub judice*.

As for the final disposition of the night soil, any farmer can put a pail like that on two stones, make a fire under it and thoroughly disinfect the foul material. If two pails are provided instead of one, one pail may be utilized for a week and then be set aside to ferment; this is an additional safeguard against the spread of disease, because fermentation breaks up the fecal material entirely, and the ova are so destroyed.

I recommend a privy raised from the ground to avoid rats. A privy which is built down to the ground all the way around provides a breeding place for rats. This is avoided by the opening under the floor.

Vaccine Therapy in Skin Diseases.—T. C. Gilchrist, in *Journal of Cutaneous Diseases*, states that in the treatment of cutaneous affections vaccine therapy is a distinctly valuable adjunct to our therapeutics. The *Staphylococcus albus* vaccine is of undoubted value in all pustular affections of the skin but especially in treatment of relapsing furunculosis, staphylococcus dermatitis, sycosis vulgaris, in certain forms of eczema, pustular rosacea and in acne when the disease is mostly secondarily infected with the *Staphylococcus albus*. He has also found vaccines of value in erythema multiforme, especially of the relapsing bullous type, and in rosacea, where the flushings were decreased by the vaccine therapy. It was also helpful in dermatitis herpetiformis and pityriasis rosea. He would recommend that vaccine therapy be tried when the disease does not yield to the usual method of treatment. *Bacillus acne* vaccine be found of value in the chronic nodular relapsing types of acne vulgaris, and in his hands, in a great many cases it has proved a curative agent.

THE MAKING OF A SURGEON

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It is a good principle in life, no doubt, for every one to be charitable in the judgment of others, and it is also commendable to look well to our own preparation and worthiness before we criticize or find fault with the work of others. But there is a kind of professional patriotism that prompts one to take pride in his calling, and a true humanitarianism that leads us to consider the rights and claims of our fellow beings to the best that can be given them. With this spirit, let us for a few moments consider the requirements that might reasonably be made of one who makes pretenses to the practice of surgery. We recognize that certain standards have to be reached by every one before a license to practice any branch of medicine can be obtained: a diploma from a recognized medical college, and a successful examination before a board of state examiners. A certificate thus obtained gives the candidate the legal right to practice all branches of medicine, whether they be surgery, gynecology, ophthalmology or internal medicine, without interference.

But should not the question of special fitness be raised, especially with regard to those who pretend to hold positions in public institutions, or those of a private character, receiving state aid? In these cases it is not only the right, but the duty of hospital managers, trustees, or directors, to inquire definitely into the ability of their appointees to do the work to which they are assigned. In private life the patient exercises this right, the right to choose his physician, surgeon, oculist, or any other specialist, but to patients in hospitals this right does not come. They must take the physician or surgeon chosen by the governing board, and the responsibility these boards incur may be inferred from a very imperfect knowledge of the kind of work that is done in many hospitals.

The reasons that actuate hospital boards in choosing members of their staffs are various and sometimes very interesting. It is the wish of some boards to extend the benefits of the hospital to as many physicians in the neighborhood as possible—to have a kind of open shop; hence a very large staff and a short term of service. In other cases appointments are made for political reasons, to represent various nationalities, or different religious creeds: "Could the force of folly any further go?" you ask, but we know that just such conditions do exist. Rarely is the question raised of special ability to do the work to which the applicant is assigned.

We know that this is all wrong. All over the country there are men acting as surgeons to hospitals who never do any surgery except during the few months in which they are assigned to hospital duty. Furthermore, these so-called surgeons never go away to learn from real surgeons how the work should be done; they are so self-sufficient that they cannot be taught.

The question is pertinent, why this mad desire to be surgeons should possess so many men on entering the profession. The brass-band enthusiasm by which public journals herald the results of modern surgery turns their heads and leads them to overlook the equally wonderful conquests of internal medicine. Good physicians are needed in greater numbers than good surgeons. Rarely a human being lives for a great length of time without requiring the services of a physician, but many—indeed, the great majority of the human family—never stand in need of a surgeon. And the wonderful triumphs of modern medicine: robbing diphtheria of its terror; the fight against tuberculosis; and the signs of promise in the horizon, the triumph over malarial diseases and yellow fever enabling the government successfully to dig the Panama canal—these are some of the wonders of internal medicine that are equal, if not superior, to anything accomplished by surgery.

It was my pleasant duty a short time ago to address a letter to a number of eminent surgeons of the country, asking each to give me briefly what he considered the essentials in the making of a surgeon. To this letter I have had the following replies:

Dr. William L. Rodman, Philadelphia: Some one has said that a surgeon should have the heart of a lion, the eye of an eagle, the hand of a woman. But valuable as these assets undoubtedly are, they are inadequate. In the first place, I consider a thorough anatomic foundation most necessary. Many of the best surgeons and teachers of surgery have previously taught anatomy. At this time, when there are so many good hospitals and experienced surgeons needing assistants, there is no excuse for one contemplating a surgical career not to have had from one to three years as first assistant to a surgeon of recognized standing. In this way will he learn not only what to do and how to do it, but also that which is vastly more important, what not to do. Good judgment, or "horse sense," is both the rarest and most essential quality in a surgeon. "Fools rush in where angels fear to tread." A very large percentage of the ill-advised operations in surgery are done by those who have never had a careful surgical training.

A successful surgeon should of course be a liberal reader of current literature, should be active in societies, and above all things, visit the clinics of other men. It is so easy to be narrow, so difficult to be broad. Lastly, I consider that surgeons of this day, superior as they are in many respects to the former generation of surgeons, could with advantage imitate them in the careful preparation and intelligent post-operative treatment of their patients. Too much is left to house surgeons and nurses. There are many good operators, but fewer surgeons. The words "operator" and "surgeon" are frequently used synonymously, but alas, what a difference!

Dr. J. William White, Philadelphia: Surgery is a highly technical occupation resting fundamentally on the general principles of biology—normal and pathologic—and requiring not only clear thinking based on broad knowledge—as do all medical pursuits—but also a certain degree of manual dexterity. In the making of a surgeon these essentials should, so far as possible; be complied with.

A young man or boy, destined to be a surgeon, should be familiarized with the principles of evolution and of natural science and the general laws of plant and animal life, and should be especially instructed in comparative zoology. He should be taught at least elementary physics and chemistry, and it would be of distinct advantage if during this period his eye and hand were educated by animal dissection and experimentation in a biologic laboratory.

It is axiomatic, however, that his work with animals should inflict on them no pain or suffering. While this may be necessary in rare instances, when a trained experimenter is investigating problems related to the welfare of the whole human race, and indirectly to that of the lower animals themselves, the student who is taught by precept or example to disregard it will lose something that will be of far more value to him later in life than even facility in recognizing structures and tissues, in tying blood-vessels, and in differentiating normal and diseased conditions, serviceable as such knowledge would be to him when he begins his real surgical labors. Practical work in a physical and in a chemical laboratory would aid materially in the combined training of hand, eye and brain that is aimed at.

He should have such general education in addition as will enable him to understand and to write his own language, and, if that is English, to read French and German also.

The latter languages are desirable, not only because of the storehouse of useful knowledge that is thus opened up to the student of surgery, but because acquaintance with them leads to clear and precise use of English in speaking and writing, an accomplishment the value of which it would be hard to overestimate.

With this equipment, the graduated theoretical and practical courses in medical schools of the first class would meet the next indications, would be infinitely more valuable to the average student than they ordinarily are, and would leave him at the time of taking his degree ready for the next and final stage of his education as a surgeon. This will last throughout life and may be divided, as Gaul was, into three parts: first, experience; second, experience; third, experience!

Dr. J. F. Binnie, Kansas City, Mo.: 1. Material to work on, viz., a gentleman in good health and blessed with common sense.

2. Preliminary training: good school education, with preferably some manual training. College training, with special courses, if possible, in physics and biology.

3. Good professional training for general practice.

4. Term as intern on medical side in a good hospital.

5. Term as intern on surgical side of a good hospital.

6. Experience as assistant to a good surgeon and as much dispensary work as possible.

7. Membership in a good review club and hard work in it.

8. Preservation of the common sense originally present.

9. Preservation of the health by being temperate in all things, and not too much dignity to permit indulgence in proper amounts of tennis, golf, open air, trashy novels and fun.

Dr. George Emerson Brewer, New York: The surgeon should, primarily, be a man in the broadest sense of the word. He should possess by inheritance, or acquire by early training, a broad philanthropy and uncompromising integrity. In addition to his technical training, he should cultivate a habit of accurate observation, prompt decision, and logical action. While tolerant of the opinions of others, and amenable to reasonable argument, his training and experience should be such as to enable him to rely on his own judgment in moments of grave responsibility.

Dr. Howard Kelly, Baltimore: I believe that the training for a surgeon should come through several years of hospital work, under good men. The young surgeon should begin at the bottom, and learn every detail that has to do with surgical work, up to the doing of operations. This presupposes laboratory work, ward work, reading, assisting at operations, operating, first in simple, then in more difficult cases. I believe a training of this kind can be secured only by four or five years' hospital work.

Dr. George W. Crile, Cleveland: While I think "surgeons" may be made, yet I have thought that they are largely born. The making part of them, in my opinion, consists most effectively in the development of a deep interest in the work; accuracy of observation; industry, and infinite patience. I would recommend these merely as essentials, but after all it is work, work, work, that counts.

Dr. Albert J. Ochsner, Chicago: First, the man to start with must be a tremendous worker. He must have the quality of thoroughness and patience, and he must be studious. Then he should have a thorough pre-medical course of at least four years, specializing in languages and science, particularly in German and French; in biology, physiology, comparative anatomy, and he should take a long laboratory course in bacteriology; a fairly thorough course in zoölogy, botany, and chemistry, histology, and embryology.

His medical studies can be accomplished in any one of a dozen of the best schools in the country equally well. He should then serve as an intern in a hospital in which there is a good medical and pathologic service for at least two years. Then, he should become an assistant to a real surgeon for at least five years, giving all of his time to examination of cases, assisting in operations, and after-treatment, examination of pathologic tissue, and research work. Later on he should spend at least one month every year seeing other surgeons work.

Dr. John B. Murphy, Chicago: First of all you must have the man; that is, an individual of strong moral courage, positive convictions, sterling integrity, and a keen recognition of a sense of obligation to his fellow-man. To make a surgeon of him he should have a good medical education. After graduation, he should have an internship of at least one and one-half years in a large general hospital, and work in all of the departments of the hospital. Then he should spend one to three years assisting a surgeon and diagnostician. All of this time his attention should be devoted keenly to surgical pathology.

Dr. John C. Munro, Boston: 1. Good health.

2. An ingrained regard for the truth; patience and the willingness to make sacrifices without self-consciousness.

3. Education in a school that grounds its pupils well in fundamentals.

4. Training for a year or more in a general hospital that affords opportunities to gain a broad training in internal medicine, as well as in the surgical wards, laboratory diagnosis, and the handling of all classes of people.

5. Special work in acquiring a fundamental knowledge of anatomy and physiology.

6. Apprenticeship in the service of a skilled surgeon for from one to five years, supplemented by research work in animal experimentation, or literary investigation, as seems best.

7. The ability to discriminate the useful from the useless when observing the work of other surgeons, and to modify one's own work thereby.

8. A working knowledge of the principal advances in medicine, therapeutics, etc., and as intimate a knowledge as possible of all definite surgical advance.

9. A reading knowledge of German, French, and Italian.

10. Study abroad only after several years of practice, when certain subjects can best be investigated. Especially charity towards the work of others, modesty in respect to one's own work, and sympathetic honesty toward the sick that apply for aid.

Dr. William J. Mayo, Rochester, Minn.: 1. A broad premedical education.

2. A good medical education.

3. A year as medical intern.

4. A year in pathology, not neglecting gross pathology for a minute.

5. A surgical internship.

6. Five years as an assistant to some active hospital surgeon, all the spare time in general practice, with especial reference to general diagnosis.

7. A life of hard work with frequent trips to visit surgical clinics, attend medical societies, and take part in discussions.

8. Not less than one hour a day with journals and books, and a credit and debit account of time.

From the above permit me to generalize and point out what seem to be some of the essential elements in the making of a surgeon:

First, the man. It is axiomatic that some individuals, if not all, are fitted by Nature, or Nature's God for certain kinds of work.

Our spoken language recognizes the truth in the word "calling." "Avocation" means the same thing. May not this be the way the Great Creator calls men to do His work in the various walks of life?

Poeta nascitur non fit, is a very old and trite saying, but a true one. Happy is the man who recognizes this calling, or interprets it aright and prepares himself accordingly.

> "What's a' your jargon o' your schools—
> Your Latin names for horns an' stools?
> If honest Nature made you fools,
>   What sairs your grammars?
> Ye'd better taen up spades and shools,
>   Or knappin-hammers.

"A set o' dull, conceited hashes
Confuse their brains in college-classes!
They gang in stirks, and come out asses,
Plain truth to speak;
An' syne they think to climb Parnassus
By dint o' Greek!"

Thus does Burns characterize the pretenders who would obtrude themselves into the sacred realms of poetry.

What are some of the characteristics which we may reasonably look for in one designed by Nature for the work of a surgeon?

As quoted by Dr. Rodman, an old writer says that the surgeon must have the eye of an eagle, the hand of a woman, the heart of a lion; in other words, far-seeing, quick perception, manual dexterity, and courage. Manual dexterity is of great importance: the surgeon must be a handy man. A man with a hand like a ham may become a skilful surgeon, but that is not likely. Some have regarded this work as mechanical; it is that, but much more. The surgical mechanic will never get very far. Marion Crawford says that "surgery is a fine art." That is a more fitting definition, but it does not cover the ground.

There is no kind of work that calls for such a display of physical and mental activity as that under consideration. Every day of his life—yes, many times a day—the surgeon must be the court, the jury, and attorneys on both sides of the case—for what else is a diagnosis?

He must carefully elicit the evidence on all sides, must sift the same by careful cross-examinations, must render the verdict, and finally must pass sentence and carry the sentence into effect.

Added to these physical and mental characteristics, he must be a normal man mentally and physically, possessing cheerfulness, hopefulness, inspiring confidence, and the most perfect optimism. He must be healthy, tireless in his industry, and conscientious, for all science is dependent on conscientious uprightness, and the Golden Rule is applicable in no walk of life more than in practicing surgery.

Second, as to the surgeon's education, the curriculums of the best medical colleges have been so extended and are so complete that their graduates all have a well-grounded preparation for work, and we have no right to complain or to criticize. The preliminary requirements for entering are yearly becoming more and more complete: several of our best schools require a degree of A. B., or its equivalent.

To the preliminary requirements, and the education the student receives in college, there is no objection to be urged. On the other hand, they should receive words of commendation only, and this brings me to the third and final topic.

Third, as to training for work, granting, now, that we have the man fitted by inheritance, endowed by Nature with all the inborn traits above referred to, that the future surgeon's preliminary preparation has been of the best, that he has completed the requirements of graduation in the best medical colleges, and has served a term of one or two years in a general hospital, wherein he may have a wide experience in medical and surgical work, under the care and direction of chiefs of the various departments, is he now prepared to do the work of a surgeon? Many eminent writers have urged that in addition to this hospital practice the young surgeon should have several years' experience in private practice, for it is urged that the conditions are very different in private life from those observed in hospital work. This may or may not be important, according to the kind of training he may have had in his hospital life: a general hospital with a large medical service may be sufficient, though I think that the discriminating judgment that comes from several years of general practice renders him a better balanced man in the matter of diagnosis.

But, now, is the surgeon fitted to do operations of importance? Let me quote from surgeons named above as to requisites.

Rodman says: "One to three years as first assistant to a surgeon of recognized standing.

White: Experience, experience, experience.

Binnie: "Experience as assistant to a good surgeon."

Kelly: "Several years of hospital work under good men. I believe that training of this kind can only be secured by four or five years of hospital work."

Ochsner: "Assistant to a real surgeon for at least five years."

Murphy: "He should spend one to six years assisting a surgeon and diagnostician."

Munro: "Apprenticeship in the service of a skilled surgeon from one to five years."

Mayo: "Five years as an assistant to some active hospital surgeon."

One of the most eminent surgeons of the West acted as assistant to a real surgeon for a period of nine years, rarely or never receiving a fee for his services; but that man to-day is a power wherever he goes. In his clinic, which is one of the largest and most interesting in the country, you will find visitors from all parts of this country and Europe, and in the deliberations of the Surgical Section of the American Medical Association, or the American Surgical Association, crowds hang on his words of wisdom, and attest their respect for his skill and great surgical knowledge.

Were surgery nothing more than a trade, the apprenticeship should extend over several years: a machinist must have at least three years' training before he is permitted to do a machinist's work: and is the human body of less importance than a machine?

Surgery has been called a fine art. What years the young painter or sculptor must spend in training before his work can command respect, or appreciation! Surgery is more than a trade or a fine art. It is the grandest warfare the world knows about: the conflict of the forces of scientific skill and training against the wickedest foes to human life, in which the battlefield is the sentient, quivering, suffering human body.

And finally, several of the eminent men quoted above advise the surgeon to go out and see the work of his fellows.

"He should spend at least a month every year seeing other surgeons work," says the wise Ochsner: "Frequent trips to visit surgical clinics," says the dominant Mayo. And those who have acted on this advice know only too well what the benefits are: the inspiration, the mental uplift that comes makes one feel that he has been associating with the immortals.

100 South Franklin Street.

Gastric Capacity of Infants.—The gastric capacity at birth is reckoned as 1 per cent. of the body weight, so if the child weighs 100 ounces, its gastric capacity is 1 ounce, and during the early months 1/30 of an ounce is added for each day of life.—N. Winslow, in *Hospital Bulletin of the University of Maryland.*

HOOKWORM DISEASE IN MINES OF CALIFORNIA

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The occurrence during the past year of several cases of hookworm disease in miners in California led me, under the auspices of the California State Board of Health, to investigate the subject for the purpose of determining whether or not the infection had become endemic in the mines.

While imported cases of hookworm disease are not infrequently observed in this state, sixty having been reported by me over five years ago,[1] its occurrence among miners had not previously been noted here. Attention was first drawn to the occurrence of the disease in Jackson, Amador County, by Dr. F. F. Sprague, and later by Dr. E. E. Endicott. Both of these physicians believed that the infection occurred in the adjacent gold-mines, but as the cases observed were all either in persons who had been exposed to infection in other parts of the world or in foreigners of not many years' residence here—Italians, Austrians or Cornishmen—many of whom we know are infected with hookworm before coming to this country, it was necessary to obtain more conclusive evidence before it could be considered that the disease had gained a foothold here. Further, the fact that the disease has not been reported as originating in any mines in the United States, made it appear that we were dealing, in all probability, with imported cases only.

In order to prove conclusively that the disease occurred endemically in a mine it would be necessary to demonstrate the larvæ in the soil from the workings, or to find the disease in a person who had not been exposed to infection elsewhere for at least seven years and preferably ten years. On account of the wandering habits of many of the miners, and the very small number of Americans employed, very few men were available for the purpose of such investigation.

In Mine 1, the results were as follows:

Case 1.—F., American, native of California, never out of this state; health good except for occasional attacks of abdominal pain, due, it was believed, to chronic appendicitis. Ova of hookworm present; eosinophilia 15 per cent.

Case 2.—M., American, native of California, never out of state; mining for past two years, always in this mine; health good. Ova of hookworm present; eosinophilia 13 per cent.

Case 3.—K., nativity not known; not out of California during past forty-eight years; resident of Jackson for last seventeen years; health good except for eruption on leg extending over considerable surface, a typical ground itch. Ova of hookworm present; eosinophilia 12 per cent.

Case 4.—N., native of England; resident of California for twenty-five years; employed in this mine for fifteen years; according to his own statement health had not been good for some time; shows evidence of moderate anemia. Ova of hookworm present in feces; blood not examined.

Case 5.—L., nativity England; nine years in Jackson; health, according to his own statement excellent; anemia quite apparent, however. Ova of hookworm present; eosinophilia 5 per cent.

Case 6.—F., Italian; eight years in California; five years in Jackson; unable to work for past five months on account of weakness. Ova of hookworm present; eosinophilia 12 per cent.

Specimens of earth were taken from various parts of the mine where conditions of heat and moisture were suitable for the development of the parasite, and in one from a cross-cut at the 1,600-foot level hookworm embryos were demonstrated.

In Mine 2 it was impossible to obtain feces for examination. Larvæ of hookworm were demonstrated in specimens of soil taken from the workings.

In Mine 3 several cases were found, but none had been in California a sufficient number of years to be of any positive value for the purpose of this investigation. No examination was made of the workings of the mine.

EXTENT OF INFECTION

The men were looked over in mines 1 and 2 after they had finished work, and were bathing and changing their clothes. Evidence of the disease was everywhere to be seen. The peculiar color of the face, which is so often found in this disease, even when the blood shows but slight reduction in the hemoglobin, was observed quite generally. Quite a number showed moderate anemia, while occasionally it was quite pronounced. It should be borne in mind that we are now considering only those men who were able to work; those so ill that they were unable to work will be referred to later. Several cases of ground-itch were observed, the arms and hands being the most frequently affected parts.

On account of the difficulty of obtaining a sufficient number of stools to form an estimate of the percentage of infected persons in the mines, blood-smears were taken and the eosinophils counted with the following results:

Mine 1.—Specimens were taken from eighteen miners. Some men were selected who showed evidence of disease. In all examinations 100 cells were counted and Wright's stain, or Oliver's modification of it, was used.

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per. cent. of Eosinophilia.
1	13	10	13
2	24	11	21
3	17	12	9
4	12	13	10
5	18	14	18
6	7	15	3
7	15	16	20
8	13	17	11
9	5	18	12

Number 9 was referred to previously as an infected subject with nine years' residence in Jackson, so that the probabilities are that all of the eighteen are infected, except possibly Number 15, who shows an eosinophilia of 3 per cent. Stools were also obtained from the following on this list and all contained ova of hookworm: Numbers 4, 7, 8, 20.

Feces from eight individuals in this mine showed seven positive. The negative stool came from an assayer whose work until comparatively recently had been entirely above ground. The infection in this mine, it would appear, is close to 90 per cent.

Mine 2.—Men showing evidence of the disease were in some cases selected.

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per. cent. of Eosinophilia.
1	8	8	4
2	3	9	7
3	0	10	8
4	6	11	4
5	5	12	24
6	2	13	8
7	3	14	15

It was impossible to obtain stools from any on this list. The conditions in this mine were very good, there being less moisture throughout most of the workings than in the other mines. Yet from the appearance of the blood, ten out of the fourteen examined, or 70 per cent., should be looked on with suspicion.

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[1] California State Jour. Med., April and August, 1905.

Mine 3.—Blood was taken from the first eleven men who happened along. No selection was made in any case, with the following result:

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per cent. of Eosinophilia.
1	5	7	20
2	11	8	14
3	7	9	0
4	14	10	15
5	6	11	5
6	14		

Here it would appear that all but one are infected, or over 90 per cent. In Number 10 and Number 11, the only ones on this list from whom stools could be obtained, ova of hookworm were found present. Of course it should be remembered in considering the increase in the eosinophils that such might be due to infection with other parasites, but in the examinations of all the stools that could be obtained, evidence of other parasites was generally lacking. In one case *Strongyloides stercoralis* was present, and in another, *Trichocephalus dispar*.

CONDITIONS IN THE MINES RELATIVE TO DEVELOPMENT OF THE DISEASE

1. *Temperature.*—It has been shown that in mines with a temperature below 70 F. the disease makes but little headway. In the mines of Jackson, in portions where the men are working, the temperature is usually kept, by forced draft, below 70 F., but in abandoned portions and adjacent cross-cuts, the only places where a man would be likely to deposit his excrement, the temperature was often as high as 80 or 90 F.

2. *Moisture.*—A sufficient amount of moisture was found in portions of all of the levels visited.

3. *Disposal of Excrement.*—Although there are rules in force against the contamination of the workings with feces, it was not very difficult to find evidence that these rules had been broken. The arrangement of tanks in the shafts for the use of the men is open to criticism and is believed to be one of the modes of infection.

ECONOMIC ASPECTS

There is no question but that the general efficiency of the men is noticeably impaired. At one mine, employing about 300 laborers, it was stated that a reserve of about twenty-five men had to be available to replace those who, on account of sickness, did not appear for work. Many of the men have to take time off now and again to recuperate. Several who were unable to work stated that when they arrived in Jackson they were perfectly strong and well. A large number of these men were encountered on the streets, some of them presenting marked degrees of anemia.

The greatest loss to the mine operators is occasioned by the large number of those moderately affected. In one mine a superintendent who was infected ascribed his somewhat poor physical condition to the results of an illness which occurred a couple of years ago. Another man occupying a responsible position had to be given a vacation every now and then on account of declining health. He presented a quite noticeable anemia, and on examination of the stools, showed a heavy infection. Any number of similar cases could be cited but these examples should be sufficient to show very clearly that the average miner infected with hookworm cannot do the work of a normal man. A loss of 20 per cent. in the efficiency of those infected would be a conservative estimate. That would mean in Mine 2, for instance, where over 300 men are employed at an average of about $2.50 per day, estimating the number of those infected as low as 50 per cent., a loss of over $20,000 a year.

When it is remembered that nearly 30 per cent. of all deaths in Porto Rico are due to hookworm disease, it is safe to say that directly and indirectly many have died from the infection contracted in these mines.

The danger of the disease being spread in the neighboring valley should be considered, especially as the sanitary arrangements for the disposal of sewage in the town of Jackson are very poor, and as many of the infected miners who are too ill to work in the mines, live on near-by farms until recuperated.

The extent of infection throughout the gold-mines of California can very readily be estimated. The conditions of heat and moisture necessary for the development of the larvæ are more or less the same in all of the mines and all employ the same class of labor. It is believed that it will be found that all of the mines of California are more or less infected, and that probably conditions will approximate those found in Jackson.

The same statement can be made for Virginia City, Nevada. While the mines of Sutter Creek, near Jackson, were not visited, cases which undoubtedly were contracted there were seen. The origin of the infection of the California mines undoubtedly extends back many years. It was probably introduced by laborers from Cornwall, Austria or Italy, in which countries the disease occurs extensively in the mines.

SUMMARY

It may be stated in summary that:

1. Hookworm disease is endemic in certain mines of California.

2. From 50 to 80 per cent. of those working in these mines are infected.

3. The infection undoubtedly is present in practically all of the gold-mines of California, and in those just over the border of Nevada.

In conclusion I wish to express the belief that hookworm disease is endemic in many mines in various parts of the United States. In many of the so-called cold mines, portions are found where the temperature is constantly high and moisture is present. In all probability most of the mines of this country have been exposed to infection, for in nearly all of them may be found Hungarians, Austrians, Italians or Cornishmen, some of whom are certain to have brought the infection with them from the mines of their countries.

240 Stockton Street.

REPORT OF A CASE OF SPLENIC ABSCESS

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This case presented a variety of symptoms which, as far as the spleen itself was concerned, were absolutely negative and it was not until autopsy that a large splenic abscess was discovered. In view of the extreme rarity of this condition and of the lack of symptoms indicating splenic trouble it is believed a full report of the case would be not only instructive but of historical interest.

History.—M. P. V., fireman first class, U. S. Navy, was admitted to U. S. Naval Hospital, Philadelphia, March 2, 1910, with a diagnosis of appendicitis. (Case paper No. 67.) The patient was aged 29 years and 2 months, unmarried and denied syphilis; did not use alcohol or tobacco; had always been in robust health, and, about a year previous to admission.

had two months of tropical service. Although the skin had been noticeably bronzed since childhood nothing indicating gall-bladder trouble could be elicited. A careful inquiry as to gastro-intestinal disturbances and family history was also negative. Heart, lungs and kidneys were apparently normal.

Examination.—On admission to this hospital there was marked rigidity of right abdomen and extreme tenderness over the appendix; temperature 100.4 F.; pulse 78, regular and full; respiration normal; tongue coated and bowels costive. The attack began with epigastric pain and nausea on the day before admission, the pain in a few hours being centered over the appendix; patient vomited before reaching the hospital; white count 13,000. An immediate operation was decided on.

First Operation.—The abdomen was opened by the Battle incision and the appendix found greatly distended, with a small gangrenous perforation at its base, through which fecal matter had escaped. There was also a gangrenous spot on the cecum surrounding the base of the appendix. The appendix was removed, and in addition the gangrenous spot on the cecum was surrounded and buried by a purse-string suture, over which a continuous Lembert suture was introduced. The parts were dried and cleansed by mopping with gauze and a cigarette drain of iodoform gauze brought out through the wound. A rubber drainage tube was passed down into the pelvis and the wound closed with the exception of a small opening for the drains. The patient was placed in Fowler's position and Murphy's proctoclysis started.

Subsequent Course.—On March 10 there was a free discharge of pus from the cecal drain which had a fecal odor. This gradually lessened and the patient passed through an uneventful convalescence with the exception of the development of a small abscess in the rectus muscle, the result of a stitch becoming infected. On March 24 the sinus had completely closed, one of Bier's hyperemia cups being used for five days.

April 1, 1910, the patient had a slight chill in the afternoon followed by profuse sweating. The temperature ranged from 99 F. to 103 F., and a slight pain developed over the gall-bladder region, but the liver dulness was not increased. For seven days after this there was an afternoon chill, fever and sweat, the temperature reaching usually 104 F. Daily white counts never ran above 8,000 and numerous differential counts were normal. The test for iodophilia was negative at this time as were also the urine, sputum and feces. The tongue was thickly coated and anorexia was marked. Repeated blood examinations were negative for the malarial parasite and several Widal reactions were also negative. The Cammidge reaction was negative, as was also a culture of the blood. Iodophilia now began to be positive and patient developed a slight cough, though no lung involvement could be made out. The pulse at times reached 100 but was usually between 70 and 80. Although there was no pain or tenderness in the loin or operation scar the latter was incised and probed but nothing unusual found. The pain over the gall-bladder region increased somewhat and at this time there was quite a perceptible deepening of the bronzed condition of the skin. The lungs and entire abdomen were repeatedly examined but, with the exception of the tenderness over the gall-bladder region, nothing abnormal could be found. At no time could the spleen be palpated nor was there ever the slightest pain elicited by the deepest pressure in this region.

Second Operation.—April 8, a Bevan incision was made over the gall-bladder and the latter found to be imbedded in a rather dense mass of adhesions and these when liberated disclosed a very much thickened and dwarfed gall-bladder. This was incised and explored, as were also the ducts, but no stones were found. The head of the pancreas seemed to be enlarged and harder than normal. The gall-bladder was drained with a Mixter tube and for two days there were no chills or fever, but at the end of that time the pyemic condition began again. The gall-bladder drained well but the symptoms were practically the same as before operation with the exception of the development of a systolic murmur heard loudest at the base. April 31 an aspirating needle was introduced in the eighth intercostal space in the axilliary line and the liver was needled in five different directions without locating pus. The symptoms of marked sepsis continued and the patient finally died of exhaustion on June 9.

Necropsy.—Cutaneous surface was deeply bronzed; emaciation marked; adhesions in right iliac fossa broken up and revealed small, firm, smooth scar in cecum at the site of the excised appendix; ascending colon dissected up to right kidney pouch with no indication of any previous inflammatory condition; gall-bladder firmly adherent to abdominal wall at site of operation wound. On palpating in left abdomen it was found that a mass of small intestine and omentum was closely adherent over the spleen, which could hardly be felt through the distended intestine. The intestinal adhesions were carefully broken up, showing the spleen to be about two and a half times as large as normal and closely adherent to the stomach and diaphragm. In breaking up the diaphragmatic adhesions a large pus sac was opened in the discolored, friable spleen. This sac was located in the center of the spleen and was about the size of a goose-egg. Two smaller abscesses about the size of a pigeon's egg, were located at the periphery. The splenic vein was thrombosed up to the vena cava. On sectioning the liver, which was slightly enlarged, there was to be seen widespread fatty degeneration, with here and there small necrotic spots about the size of a pea. Both ventricles of the heart were dilated and the left ventricle very much thinned. There were to be seen greenish-yellow nodules and patches on the flaps of the mitral valve and left ventricular endothelium, showing the presence of endocarditis. Lungs and pleuræ were apparently normal. The head of the pancreas was enlarged and nodular. Both kidneys were slightly enlarged and showed minute areas of fatty necrosis. The small intestine was blanched and contained a small quantity of tenacious greenish yellow material.

The post-mortem findings clearly indicated a widespread pyemic condition with a primary focus in the spleen, and it would seem that the lesson to be learned from the history and findings in this case is that the splenic condition could only be diagnosed by exclusion. Systematic writers on this subject invariably refer to pain in the left side high up. At no time was there the slightest pain in this region, nor could the spleen be palpated. It is believed that the splenic abscess resulted from the gangrenous pyogenic condition of the appendix and cecum. Had there been the slightest suspicion that the spleen was diseased a splenic puncture would have been done. It is further believed that the splenic puncture should have been done shortly after the gall-bladder operation, in view of the fact that everything but the spleen had been excluded. Had this been done the abscess in the spleen could have been drained posteriorly with a possible chance of saving the patient. Of course this latter conjecture is not free from the criticism that the patient could not have lived any way on account of the pyemic condition which was in all probability present at that time, but there is no question as to the fact that at least the patient's chances of recovery would have been greatly improved had the abscess been located and drained, and of course the sooner this was done the more favorable the prognosis.

IDIOSYNCRASY TO ASPIRIN

CYRUS GRAHAM, M.D.
HENDERSON, KY.

In THE JOURNAL I recently read a communication[1] in regard to idiosyncrasy to aspirin, of which I had an almost parallel case on November 19.

On the advice of a friend a young man took a five-grain tablet of aspirin for headache. In about one hour, still suffering, he took another, and then lay down on a cot in his office. In a few moments he arose and remarked to some one present,

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[1] Berl. klin. Wchnschr., 1893, No. 19.

"I feel mighty queer, and can hardly see." He then looked in the mirror and exclaimed, "What is the matter with my face? I am going to a doctor!" He walked nearly two blocks to my office, and in attempting to walk up to the door (just three steps up from the pavement) fell, and then had to be assisted into my office. He hurried in without waiting to knock, and in a voice which indicated great distress, exclaimed, "Doctor, some one has poisoned me." This was probably about half-past one, and about an hour and a half after taking the first tablet. The mucous membranes of his eyes, nose and mouth were very edematous. The eyelids and lips were everted and swollen to twice the normal size, the conjunctivæ very much congested; the patient could hardly breathe through his nose at all. Tonsils and uvula were in a state of congestion, the articulation was very indistinct, and when the patient attempted to raise his voice to a higher pitch, it had a peculiar metallic sound, which would end with a muffled tone. The veins in his temples and throat were knotted, and in places were standing out like hard cords. I found his circulation 136, respiration 24, afterward going down to 12, temperature normal. His face was greatly flushed, and this, with the eversion and swelling of eyelids and lips, made him a ghastly-looking object.

I made him lie down on a cot, and as he seemed to have considerable trouble in breathing, removed his collar and opened his shirt. I had the nurse give him a hypodermic injection of digitalin, bathe his face, neck and head with hot water, and apply continuous hot towels, and keep him quiet. Later, as he complained of great pain in the shoulders and neck, I also applied continuous hot pack to those parts, and, as the circulation remained weak, ordered hypodermic of strychnin. At half-past two he suddenly fell into a profoun sleep; his circulation slowed down and became stronger, but respiration continued very slow, and seemed almost to stop at times. His slumber was so profound that the removal and the replacing of the hot towels did not seem to disturb him at all. I allowed him to sleep until nearly four o'clock, when I awakened him and had him conveyed to his home, which was about three miles in the country. He stood the trip all right, and after getting into bed he almost immediately fell asleep again. In about three days the edema had disappeared from face, nose, eyelids and mouth, but the throat remained irritated for at least ten days longer, and the patient was slow in regaining his strength.

The report of H. E. W. and this case show that some have a decided idiosyncrasy to this drug, and that it should be listed as one of the dangerous drugs, which should not be retailed indiscriminately to the laity.

THE USE OF CYLINDRICAL GAUZE AND COTTON DRAINS IN DISCHARGING EARS

MARK D. STEVENSON, M.D.
AKRON, O.

Aural surgeons must have witnessed the efficiency of gauze drainage in the ear following mastoid operations. The pus is constantly carried by the moist gauze packing in the external auditory meatus to the preferably wet gauze protective dressing. The solution with which this dressing is moistened should not be strongly antiseptic or irritating. Normal saline is excellent, although to encourage osmosis I sometimes employ a heavy sterile solution of magnesium sulphate. The packing in the auditory canal should be carried down to the tympanic membrane. There should not be any space left to serve as a reservoir for pus. This obliteration of space may be readily accomplished by placing over the outer end of the auditory canal a few folds of the end of a narrow 1 inch or 2 inch strip of gauze packing which has no loose threads on its margin, and then with a rough or screw-ended probe pressing the gauze directly in, until it touches the drum head. If a smooth probe is used or no fold made in the gauze the probe is likely to slip through the single layer of gauze, irritating the canal or injuring the ear-drum instead of carrying the gauze before it.

In acute or chronic otorrhea, a gauze drain is also very useful, but requires changing once or twice a day, which must be done by the surgeon, since such a drain cannot be inserted safely by untrained attendants. A few aurists, in certain cases, advocate gauze drainage but the patient must be in a convenient hospital or make frequent visits to the aurist's office which in practice is likely to be either too inconvenient or too expensive, or both. To overcome these objections I employed for some time a drain which my office assistants made by rolling a narrow strip of gauze doubled on itself on the end of a sterile toothpick, giving it stability by wrapping its central part with thin gutta-percha gummed together by any unirritating sterile ointment. It presented the appearance of a diminutive cigarette, 3/4 to 1 1/4 inches long, about 1/8 inch in diameter, with the gauze projecting about 1/8 inch beyond the surrounding gutta-percha and with a toothpick sticking in the ravelled end of the gauze. The drain was made loose on the toothpick before being introduced. After its partial introduction the toothpick was withdrawn and its opposite dull end was used to press the gauze drain well into the ear. The outer end of the canal was then packed with gauze to help retain the drain in place and to absorb any excess of discharge when there was more than the drain could contain. Gauze is much more serviceable than cotton for this purpose.

Similar drains are now being manufactured. At first drains made altogether of gauze tightly wrapped by machinery were tried, but they were too stiff, hurting the patient on introduction. Drains made wholly of cotton were not stiff enough to be introduced. The cylindrical gauze and cotton drains which I recommend consist of cylinders of cotton wrapped in gauze, which is both soft and pliable, so as not to injure the delicate tissues of the ear, although sufficiently firm so that they can be readily introduced. They are supplied sterile, ten in an envelope, each six inches long. They may be cut by sterile scissors to any desired length, depending on the depth of the external auditory canal, and are supplied, of proper length, to the patient, in dry sterile two-dram vials or wrapped in sterile gauze. These drains are also very useful in draining small abscesses or cavities anywhere, and are easily introduced. They may be used any desired length. Several, side by side, may also be employed for drainage, as in some mastoid wounds.

They are easily introduced into and removed from the external auditory meatus by any simple forceps. They may also be introduced by first impaling them on the end of a sterile toothpick, using the latter as a handle. When there is much discharge I have the patient keep one in the ear day and night, putting a fresh one in every morning and evening; but after the discharge is much lessened it is employed only at night. After its removal, if there is any excess of discharge, it should be wiped away with cotton on the end of a sterile toothpick. Any drops which the aurist may wish to employ, *e. g.*, 5 or 10 per cent. phenol in glycerin, compound tincture of benzoin, boroglycerid solution, or boric acid and alcohol solutions in different strengths, may be warmed and poured into the upturned ear and allowed to remain for several minutes, when the excess may be removed and a fresh drain introduced. In order to protect the skin and prevent excoriation by the discharges, once or twice each week a small amount of some ointment, *e. g.*, zinc oxid or calomel, 2 per cent., may be smeared by a cotton-wrapped applicator on the outer two-thirds of the canal, or a very little may occasionally be placed on the sides of the drain but not on its ends.

Dry gauze will absorb more discharge than wet gauze, but the latter, especially if a heavy salt, *e. g.*, magnesium sulphate, has been dissolved in the water, will encourage free osmosis and more readily absorb and carry away the discharge. If the outer gauze pad retainer is used moist, as I think in certain severe cases it should be, the whole should be covered by a large thick dry gauze pad to protect the ear from changes in temperature and infection from without. This pad may be readily fastened in place by a binder similar to Beck's, made of gauze with three tapes, one over the head meeting the others, which are first tied around the neck.

I think that the drain is particularly serviceable in acute cases and in chronic cases with much discharge. When the pus is carried away from the inner end of the auditory canal drainage from the middle ear is encouraged. The gauze pads over the outer end of the drains should be removed whenever saturated with pus, and in many cases the drainage is so free that they must be changed very frequently. I have never experienced any trouble in having patients use the drains, and have had no accidents with them. I do not think that more granulation tissue has appeared than in corresponding cases with inferior drainage, if as much.

500 Everett Building.

MUST THE TINCTURE OF GUAIAC BE FRESHLY PREPARED?

HORACE W. SOPER, M.D.
ST. LOUIS

Since Weber's modification of the guaiac-turpentine test for occult blood in the feces and stomach contents,[1] every writer on this subject has uniformly insisted on using only the freshly prepared tincture of guaiac. Many have advised that the interior of a fragment of guaiac should be selected. During the past two years, I have experimented with older tinctures, controlling the reaction by the freshly prepared tincture. To my surprise, I found no evidence of deterioration; in fact, I often observed a more sensitive reaction from the older tinctures.

The method of preparing the tincture is as follows: Rub the guaiac resin in a mortar to a fine powder, slowly adding 95 per cent. alcohol. Be sure to have a residuum of guaiac in the mortar, thus insuring a strong tincture. Filter and keep in a glass-stoppered bottle. Dilute a portion of this stock tincture with 95 per cent. alcohol (tincture 1 part, alcohol 5 parts) and keep in smaller glass-stoppered bottle for daily use.

The stock tinctures used varied in age from two months to eight months. The diluted tinctures were kept only several weeks, but never showed any loss in the delicacy of the reaction.

The advantages secured by this method are obvious. The daily preparation of the tincture is a nuisance; moreover, the guaiac resin contains many insoluble particles. Therefore the daily prepared small quantity of the tincture must vary much in strength. The tincture made in larger quantities is more uniform and in my experience is more sensitive and does not quickly deteriorate.

AN EASY AND PAINLESS METHOD OF REMOVING ADHESIVE PLASTER

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Such a frequent and simple procedure as the removal of adhesive plaster from the skin of a patient is not infrequently accompanied by considerable pain and discomfort. Especially is this true if the plaster has been placed over hairy surfaces, or if the hair has grown subsequent to the application of the plaster. The usual methods of aiding the removal of the plaster by the use of benzin, alcohol and peroxid of hydrogen are not particularly effectual while, in themselves, these agents often add to the patient's discomfort.

I discovered by accident that oil of wintergreen when applied to adhesive plaster removed completely the adhesive elements in a very short time and since that time I have found this agent a most useful one for this purpose. It is necessary only to use a small amount of the oil, which is applied directly to the plaster and easily spreads itself throughout the adhesive material. As far as I am aware this agent is not in common use for this object and as the aim of a physician or surgeon is to relieve instead of causing pain it seems well to call the attention of the profession to the value of the method. When extensive areas of plaster are to be removed the application of an ointment of adeps lanæ hydrosus with 10 per cent. of oil of wintergreen incorporated is even more useful than the oil alone.

THE TREATMENT OF EXOPHTHALMIC GOITER WITH SPECIFIC ANTISERUM

ALONZO ENGLEBERT TAYLOR, M.D.
PHILADELPHIA

Several years ago I prepared what may be termed anti-thyroid serum, according to the directions of Beebe, and had the serum given a trial in the treatment of exophthalmic goiter, with negative results. The results were not published at the time on account of the feeling that possibly the negative character of my results might have been due to slight variations in technic as compared with that of Beebe, and I did not wish to cast a doubt on positive work of this nature so long as the subject was in a state of active experimentation. Since that time negative results have been noted by several observers and it is felt that my results should be published.

The work was done in the University of California. The preparation of the thyroid protein was done strictly according to the published procedure of Beebe. The material was fresh thyroid glands removed by surgical operation from patients with subacute active exophthalmic goiter, the glands being used fresh from the operating-table. The animals selected for immunization were Belgian hares, for reasons connected solely with the internal administration of the animal house. These animals were subjected to increasing doses of the thyroid protein, until the serum of one of them on being tested gave a good precipitation with the material used in the immunizations. The thyroid protein is quite toxic to rabbits. We lost several, and all lost weight during the period of immunization. The total final number of rabbits, eight in all, were bled to death and the serum carefully collected, freed of corpuscles and filtered through a thin infusorial filter. It was then tested for its specific reaction, which at 1 to 10 gave a large precipitation within a few minutes. From this point I made a radical change in the technic. I was not able to bring myself to feel that it was safe to dispense this native serum, on account of the possibility of the presence of tetanus spores, without chemical sterilization. I therefore added trikresol to it precisely as is done in the manufacture of diphtheria antitoxin, and allowed the serum to "lager" for six weeks. When it was tested again for its specific reaction at the end of this time, I was able to observe no change. This serum was then kept at low temperature until dispensed.

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[1] Berl. klin. Wchnschr., 1893, No. 19.

Dr. P. K. Brown, of San Francisco, tried this serum in several cases of active exophthalmic goiter, with absolutely negative results. Not only did the serum produce no change or amelioration of the symptoms or signs of the disease, but large amounts of the serum could be injected without the causation of any results whatever. In other words, the serum was neither curative nor toxic.

Observations on the serum were occasionally made after the determination of its negative value in the treatment of exophthalmic goiter. The specific reaction gradually decreased, and finally within a year after the serum was prepared, it could no longer be elicited. Evidently the precipitating protein is denatured on standing, probably through a reaction of hydrolysis.

4522 Locust Street.

CHRONIC INFLUENZAL RHINITIS PROMPTLY IMPROVED BY VACCINE THERAPY

CHARLES C. GRANDY

CHICAGO

The following case of chronic influenzal rhinitis seems to merit report because of the prompt and decisive curative effect of inoculations with heated influenza bacilli.

About four years ago the patient, a physician aged 54, had an attack of influenza and ever since there has been a more or less profuse discharge from the nose, at times so abundant that several handkerchiefs would be soiled during the forenoon, even when nasal washes were frequently used. At the time of the first examination (Aug. 4, 1910) there was a very profuse mucopurulent or purulent nasal discharge which contained many polymorphonuclear leukocytes and some bacteria, including a Gram-staining coccus and a Gram-negative bacillus. On plates of blood-agar (human), the discharge gave rise to some large white colonies composed of staphylococci, and surrounding these, many small dewdrop-like colonies which were difficult to see and which were composed of bacilli. Pure cultures were obtained on slanted blood-agar. The bacillus was not motile and was regarded as an influenza-like bacillus because it was small, Gram-negative and grew in symbiosis, forming minute colonies. A few days later, plates were again made from the discharge with practically the same results. At this time, the patient's opsonic index for the bacillus was 0.3. Contrary to expectations, this bacillus was not subject to much spontaneous phagocytosis,[1] and no difficulty was experienced in estimating the opsonic index. A vaccine was prepared from the bacillus, by heating at 56 C., for thirty minutes, and 12,000,000 bacilli injected hypodermically without any apparent effect, except that the opsonic index now became normal; on the second day the index was 3; on the third day 5; and on the fourth day 12. Four days later 50,000,000 bacilli were injected and on the following day the patient felt sick and could not eat or sleep; the discharge did not seem quite so abundant and smears showed that leukocytes had taken up a great many bacilli; very few cocci were present in the smears, and on plating a loopful of the discharge on blood-agar, only three colonies of cocci developed, as compared with a large number of colonies of the influenza-like bacillus. Six days later the discharge as ordinarily obtained did not contain any bacteria; on sneezing, however, the material produced contained many bacilli, most of which were inside of leukocytes, some leukocytes being crowded to the utmost with bacilli. The patient was now given an injection of 100,000,000 bacilli, which did not cause any symptoms, and on the following day the nasal discharge had diminished very much. From now on the discharge decreased daily and in two weeks it had practically ceased.

The patient went to his home in Colorado August 28, and the injections could not be continued regularly after that time. In a letter dated November 4 he wrote that he had been in the best of health, but that there was still a little discharge.

1743 West Harrison Street.

RÖNTGENOGRAPHIC EXAMINATION OF THE BLADDER

JOHN M. GARRATT, M.D.

BUFFALO

Considerable progress has been made of late in the diagnosis of displacements of the stomach and large intestines and in demonstrating irregularities in their walls by means of the Röntgen rays, following the ingestion or injection of bismuth solutions. It has occurred to me that distention of the urinary bladder with bismuth solution and immediately taking a Röntgenograph would be of value in outlining its (a) position, (b) size and (c) conformation and that irregularities in the vesicle wall as, (d) projection of tumors, (e) diverticula or pouching and (e) anomalies could all be diagnosticated and the approximate size and shape of the deformity would be shown in a permanent record.

It is not always easy or advisable to use the cystoscope in certain diseases of the bladder, and in some forms of prostatic hypertrophy it is practically impossible to insert the instrument; while in some instances it would be an absolutely dangerous procedure. In most cases there is no objection to it, and it is easy to insert a sterile catheter through which passes the solution used to bring about the distention. The process is completed by taking the Röntgenograph.

TECHNIC

Pass a sterile, soft catheter and irrigate the bladder with boric acid solution. When the washings come away clear, measure its capacity, with the bladder empty, distend with the measured quantity of the following solution:

℞	Gm. or c.c.
Bismuthi subcarbonatis	50.
Kaolini	250.
Aquæ destillatæ	1000.

(Formula of Dr. Haenisch of Hamburg, Germany, and used by him in examination of the large intestines.)

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[1] Tunnicliff and Davis: Spontaneous Phagocytosis of Fusiform Bacilli and Influenza Bacilli, Jour. Infect. Dis., 1907, iv, 66.

Take at least two Röntgenographs, one in the ventral recumbent position with the anode centered over the sacrococcygeal articulation; this should be a standard exposure for the bladder, always preserving the same distance from anode to plate. Center as above and a Röntgenograph will result from which reliable comparison as to size, position and conformity can be made. The second exposure can be taken at any desired lateral or dorsal angle. The proper angle found, stereo-Röntgenographs would be of great value.

The bismuth solution is well borne by the bladder. In one patient with cystitis it was the only injection which he could retain with comfort. The solution can be removed by irrigation after the exposures have been made, or allowed to pass off naturally. The danger of bismuth poisoning from absorption is practically nil.

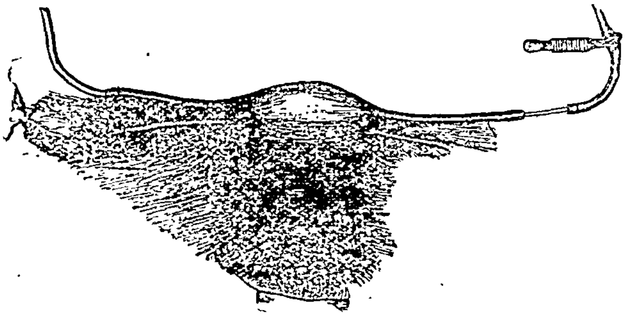
URETEROTUBAL ANASTOMOSIS

A PRELIMINARY REPORT

AXEL WERELIUS, M.D.
CHICAGO

Owing to the rather discouraging results following partial excision of bladder for malignant disease, the complete removal of the organ is, as a rule, the only procedure that holds out any hope of lasting cure. The all-important problem in such radical work is, of course, to establish an outlet for the urinary secretion, and one that combines the greatest insurance against ascending infection with the least annoyance to the patient.

Several more or less ingenious methods have been devised. Watson proposes preliminary nephrotomy and permanent drainage through the loin. This method may afford fairly good protection against kidney infection, but must be frightfully annoying to the patient.



Ureterotubal anastomosis

Maydl's[1] plan of ureteral implantation into the intestine has been used. This method, or its modifications, originally devised for exstrophy of bladder, permit of control of urinary secretion, and would be excellent were it not for the great danger of ascending infection. The death-rate from this source has been 50 per cent. This is higher than when used for its original purpose, as in exstrophy of bladder, from long exposure to the exterior, ureters have acquired some degree of immunity to ordinary types of infection. The danger of infection in above operation is not only immediate, but threatened at any subsequent enteritis.

Pawlik[2] implanted the ureters into the vagina, Sonnenberg[3] into the urethra and Rovsing[4] with others, left ureters in the skin opening, all with good immediate results.

Thus it seems that operations that aim to give the patient the greatest comfort are also associated with the greatest danger. The genital system, closely related as it is to the urinary apparatus, both in the early embryo and throughout life, should, it seems, be the ideal outlet for the urinary secretion. Through this route secondary infection ought to be reduced to a minimum. The only drawback is, of course, lack of control, but this is somewhat counteracted by the favorable location for wearing of a urinary receptacle.

Working along the above theory, I am now endeavoring to anastomose ureters with the tubes, as in the accompanying illustration and also to implant them into the uterus. The immediate results in dogs seem very promising. Besides a trial dog, thus far only two dogs have been used of a coming series.

Dog 1.—Brown and white, large bitch. Operation, January 4. Anesthesia, ether. The ureters were dissected up and cut off close to the bladder and distal end tied. Bladder was left intact. Both tubes were then cut off about 4 cm. from the uterus and proximal end tied. A through-and-through purse-string suture was then inserted in the distal end of the tubes, into which the ureters were drawn, as in the illustration, and the purse-string lightly tied around the tubes and reinforced by two interrupted sutures.

Dog 2.—Grayish-white bitch. Operation, January 9. Same technic as above. Both dogs are so far doing well, passing urine through the uterus and vulva.

The trial dog mentioned above was very small, with minute ureters, and consequently, very difficult to operate on, especially as the operation had not been thoroughly planned. Owing to recent pregnancy there was a great disproportion between the tubes and ureters, the caliber of tubes being many times larger than that of the ureter. In making the anastomosis, I foolishly used interrupted sutures, which made the union very imperfect. The dog died on the sixth day, urine having leaked at the anastomosis.

It is, of course, too early to report any results or give any conclusions, as the work has just begun, but the operation seems feasible, at least in dog.

1230 Sixty-Third Street.

THE FUNCTION OF THE CHORIOID PLEXUSES OF THE CEREBRAL VENTRICLES AND ITS RELATION TO THAT OF THE PITUITARY GLAND *

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The secretory organs for the cerebrospinal fluid are the chorioid plexuses of the third, fourth and lateral ventricles. These are highly vascular projections of the pia mater into the ventricles, covered with villous-like projections about 1 to 2 mm. in diameter. Under the microscope these villi are seen to be made up of a number of secondary villi about 0.25 mm. in diameter, which again show grape-like projections. Through the center of the villi run comparatively thick-walled blood-

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[1] Maydl: Wien. med. Wchnschr., 1894, Nos. 25-29; 1896, No. 28.
[2] Pawlik: Wien. klin. Wchnschr., 1891, xli, 1814, 1815.
[3] Sonnenberg: Verhandl. d. Deutsch. Gesellsch. f. Chir., 1881, vol. x, No. 11.
[4] Rovsing: Hospitalstidende, 1907, xv, 709.

*Read before the Cincinnati Neurological Society, and the Cincinnati Society for Medical Research, Jan. 5, 1911.

*For reasons of space, part of the illustrations are omitted. All appear in the author's reprints.

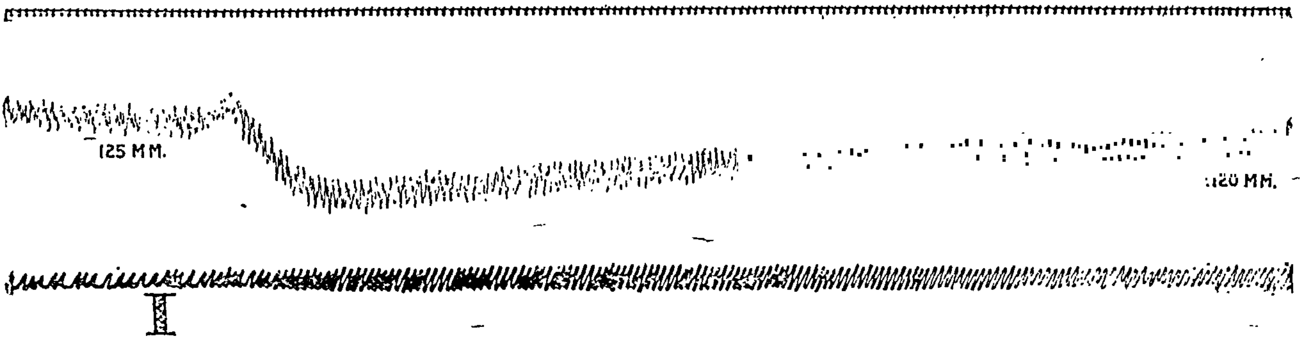

Fig. 1.—Dec. 21. 1910. Dog, 6 kilos; ether anesthesia. Jugular injection at I, of 1 c.c. extract of dog chorioid. Uppermost line, timer marking seconds; second line, blood-pressure; third line, respiration.

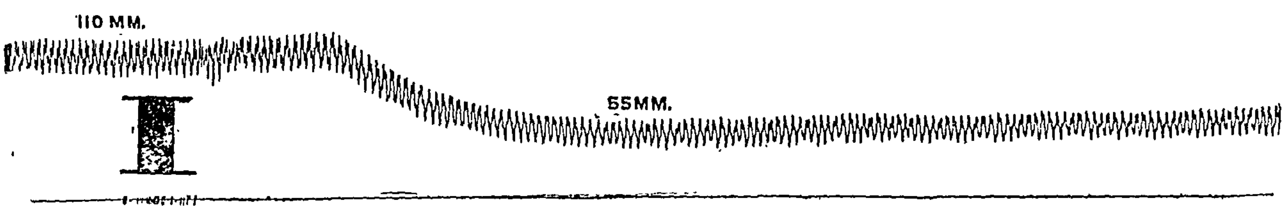

Fig. 4.—Dec. 28, 1910. Dog, 12 kilos; ether anesthesia. Jugular injection, at I, of 12 c.c. cerebrospinal fluid from a patient with cerebral edema of traumatic origin. Lines as before.

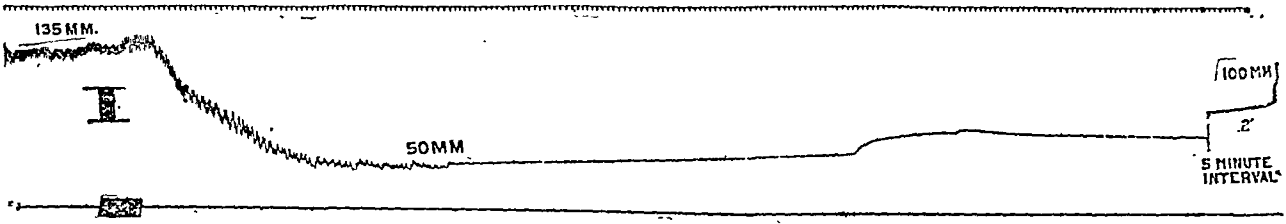

Fig. 6.—Dec. 31, 1910. Same dog as in Figure 5. Injection, at I, of 10 c.c. cerebrospinal fluid from same case (Fig. 5) of delirium tremens. Lines as before.

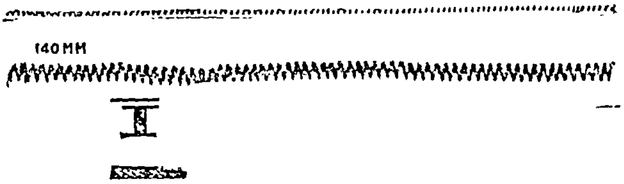

Fig. 7.—Jan. 3, 1911. Dog, 6 kilos; ether anesthesia. Jugular injection, at I, of 30 c.c. cerebrospinal fluid from an individual recovering from mild attack of delirium tremens. Lines as before.

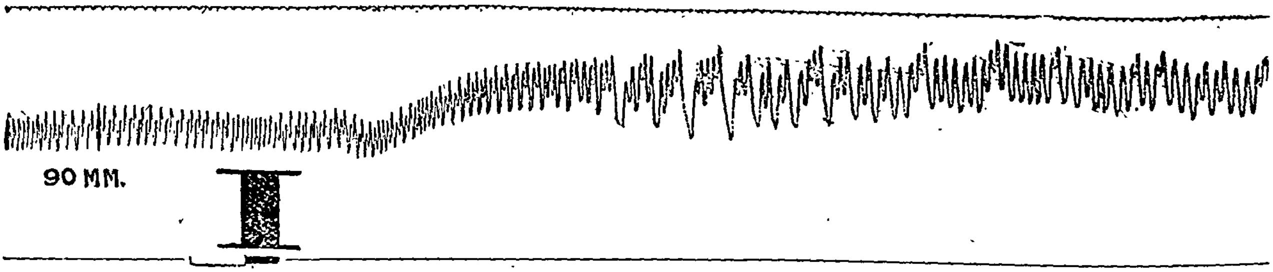

Fig. 8.—Dec. 10, 1910. Dog, 11 kilos; ether anesthesia. Jugular injection, at I, of 0.75 c.c. pituitary extract. Lines as before.

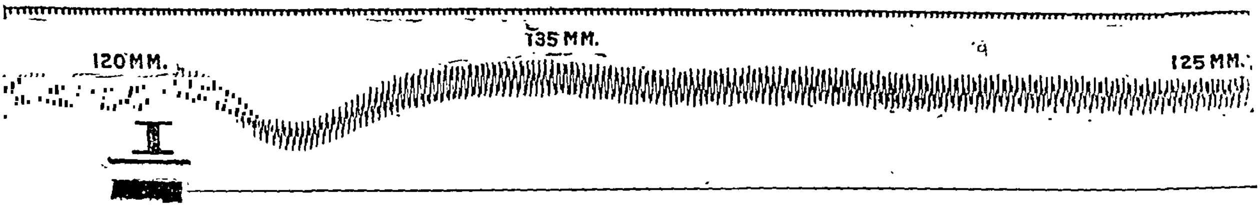

Fig. 9.—Dec. 30, 1910. Dog, 12.5 kilos; ether anesthesia. Jugular injection, at I, of 1 c.c. extract of human chorioid plus 1 c.c. of pituitary extract. Lines as before.

vessels, giving the entire organ a highly vascular appearance. The connective tissue of the villi is that of the pia mater. Covering the villi of the plexuses is a layer of large spheroidal cells, in each of which may be seen, in addition to the nucleus, yellowish granules. These cells are probably the secretory cells of the organ. The appearance of the plexuses strongly suggests an inverted gland which, instead of pouring its secretion into a series of ducts, empties directly into the ventricular system of the brain.

If one strips the chorioid plexuses from both the lateral ventricles of a dog recently killed by bleeding, and rubs them up in 2 c.c. of normal saline solution and injects the filtrate into the jugular vein of another dog, it will be found that this extract causes a marked fall in the blood-pressure. This effect was found to be constant in ten experiments.

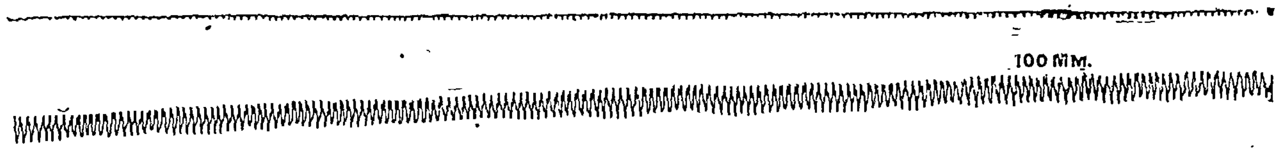

Fig. 4, continued.

Figure 1 is from a tracing of such an experiment. The blood-pressure was obtained by connecting the carotid or femoral artery of the animal with a mercury manometer. The respirations were recorded by means of a Paul Bert pneumograph connected with a Marey tambour, so arranged that the up-stroke represents inspiration, the down-stroke expiration. The time of injection was recorded by an electric signal. The injection was made into the jugular vein. In all experiments the animals were under light ether anesthesia administered through a tracheal tube. This animal received 1 c.c., or half the total extract made from the chorioid plexuses of the lateral ventricles of another dog killed by bleeding. The drop in blood-pressure, which in this experiment was preceded by a slight momentary rise (not constant), began fifteen seconds after the beginning of the injection, reached its maximum (that is, 50 mm.) twenty-eight seconds after the beginning of the injection, and returned to within 5 mm. of the original pressure in two minutes and twenty-five seconds. The rate of the heart-beat was apparently unchanged. The respiration was increased in rhythm from 40 to 60 per minute. Extracts made from the chorioid plexuses of the human brain show the same effects in even smaller doses.

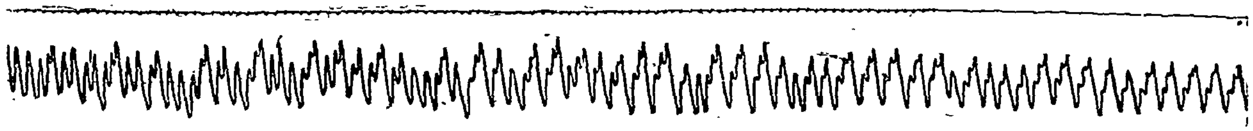

Fig. 8, continued.

Figure 2 is a tracing obtained by injecting into the jugular vein of a dog 1 c.c. of an extract made by rubbing up the plexus from one lateral ventricle in 10 c.c. of normal saline solution. The brain was removed from a man 35 years of age, five and one-half hours after death from pneumonia.

Extracts made from the chorioid plexus of the fourth ventricle produce the same reaction.

The reaction exhibited in Figure 3 is independent of the action of the vagus nerves, since the same effect is obtained when both vagus nerves have been divided.

The thought suggested itself that possibly in certain cerebral affections, particularly in such as were associated with hypersecretion of cerebrospinal fluid, the fluid might contain an excess of this depressant evidently secreted by the chorioid plexuses. Accordingly experiments were made with cerebrospinal fluid obtained by lumbar puncture in three such cases.

Figure 4 is a tracing obtained from a dog into whose jugular vein were injected 12 c.c. of cerebrospinal fluid obtained by lumbar puncture from a patient with edema of the brain following a blow to the head producing a subtentorial hemorrhage. It will be seen that the injection caused a marked (55 mm.) and prolonged fall in blood-pressure, followed by an exceedingly slow and incomplete recovery. The cerebrospinal fluid in this case evidently contained a great excess of the "chorioid depressant."

Figure 5 is a tracing obtained from a dog into whose jugular vein were injected 5 c.c. of cerebrospinal fluid drawn from a marked case of delirium tremens. This fluid was much more depressant than that from the previous case.

The injection of 10 c.c. of the same fluid fifteen minutes later into the same dog produced a most violent and prolonged depression, from which the animal incompletely recovered only after an interval of eight minutes. This is shown in Figure 6.

Figure 7 is a tracing obtained by injecting 30 c.c. of cerebrospinal fluid drawn from a subject who had recovered from delirium tremens. There was but little depressant effect, a fall in blood-pressure of not more than 5 mm., which was quickly recovered. The individual from whom this cerebrospinal fluid was obtained had had a mild attack of delirium tremens which had lasted only forty-eight hours, and, at the time the fluid was withdrawn, the patient's pulse was normal again and the attack of delirium tremens had disappeared.

The patient died from whom the fluid used in Experiments 5 and 6 was obtained, and at autopsy a marked cerebral edema was found. The ventricles were filled with fluid which, when injected into dogs, was markedly depressant.

It also occurred to me that if such a depressant were secreted by the chorioid plexuses and poured out into the ventricular system it would meet there whatever was given off by the pituitary body, and it seemed wise to determine, if possible, what action these two principles might have on each other. As has been abundantly shown, the infundibular lobe of the pituitary gland contains a substance which causes a marked elevation in blood-pressure lasting for some time and accompanied by a marked slowing of the heart and an increase in the force of the cardiac systole.

Tracing 8 was obtained from a dog into whose jugular vein was injected 0.75 c.c. of an extract of the infundibular lobe of the sheeps' pituitary gland. The well-known effect is here nicely shown.

When an injection was made of a mixture of the pituitary extract just mentioned and an extract of the human chorioid plexus it was found that these substances tend to counteract each other, though incompletely. Of course, it is difficult to determine the completeness or incompleteness of such a counter-action in the absence of known dosage.

If we examine a tracing (Fig. 9), of such an experiment we shall find it very interesting. The depressant effect of the chorioid is shown, but lessened in amount and only transitory in time. This is succeeded by a rise in pressure due to the pituitary extract but this also is lessened in amount (15 mm.) and greatly shortened in time of duration. At the end of two minutes and thirty seconds the blood-pressure was within 5 mm. of that which obtained before the injection. The slowing of the heart is present but also reduced. It is evident then that these two principles which, we presume are poured into the cerebrospinal fluid have a tendency to counteract each other in so far as their effect on the circulatory apparatus is concerned. It will be a matter for future investigation to determine, if possible, under what circumstances the one or the other gains the supremacy.

A further report on the nature of the chorioid "depressant" will also be made in the future.

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Therapeutics

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While acute pericarditis may begin insidiously and escape detection, unless the heart is frequently examined during rheumatic and other fevers, still it is not so likely to be overlooked as endocarditis, as pain, sharp and lancinating, is generally complained of. The pain is referred to the region of the heart and to the epigastrium. It seems to be not entirely due to the friction of the inflamed surfaces of the pericardial sac, as it may continue after a fluid exudate has separated these surfaces. There generally is a slight rise in temperature; the pulse becomes weak and small and perhaps irregular, with more or less cardiac dyspnea. There is generally from the very first a good deal of restlessness and mental anxiety, the patient reflexly or actually realizing the seriousness of the condition. In other words, there is cardiac anxiety, a condition so well understood by the physician who sees many patients with heart affections. As the disease progresses the patient desires to lie with the head higher and higher, this depending on the amount of exudate. If there is much exudate, so that the heart is much pressed on, the least exertion will cause dyspnea and cyanosis. If the exudate were very large and the pericardial sac greatly dilated, the recurrent laryngeal nerve might be so interfered with as to paralyze the vocal cords and cause aphonia. An exudate should not be allowed to become so great as to cause this condition. In other words, paracentesis should be done before such a dilatation of the upper part of the sac could occur. Even when the exudate is small, possibly from continuity, irritation of the diaphragm may occur, and a consequent hiccough becomes a troublesome and dangerous symptom. Probably reflexly, owing to disturbance of the pneumogastric nerve, nausea and vomiting are often present.

The physical signs of this inflammation are, first, to-and-fro friction fremitus; second, when there is effusion, increased cardiac dulness, absence of cardiac impulse, and muffling of cardiac sounds. The amount of exudate of course determines the size of the pear-shaped dulness.

The pathology of pericarditis is simply that of an inflammation of a serous membrane, with the addition of the physical fact that there is no opportunity for rest. The duration of the acute form varies from two to several weeks, with the exudate, if there was exudate, gradually diminishing. If the exudate was withdrawn, there may be some recurrence. The inflammation may become chronic. This is, however, rare, except as an adherent pericardium, unless pus forms and there is a purulent inflammation of the pericardium. In other words, a heart could not long stand a continued and repeated pressure from exudate, while if it is a purulent pericarditis, operation and drainage is immediately necessary.

The prognosis of pericarditis occurring during rheumatism, during acute infections, or from injury, is generally considered good, patients not frequently dying of this condition alone, although it is a serious complication if the patient is otherwise seriously ill. However, patients with fibrinous pericarditis may develop myocarditis and later acute dilatation. Sometimes after the patient is apparently well, adventitious sounds may be heard in the region of the apex, which are due to adhesions in the pericardium. Also, sometimes these sounds are heard at the base of the heart. Such sounds show adhesions that interfere with perfect cardiac action, and under exertion or sudden heart-strain may cause sudden death. When pericarditis occurs during an acute exacerbation of nephritis, especially chronic interstitial nephritis, the prognosis is bad. It is generally a terminal condition. It should not be forgotten that when there is a large exudate in the pericardial cavity sudden death from overwhelming of the heart may occur at any time during the course of the disease.

The indications for treatment are:

1. To treat the underlying cause of the inflammation.
2. To relieve pain.
3. To inhibit the progress of the disease and prevent exudate if possible.
4. To quiet the heart.
5. To remove the exudate, medicinally if possible, surgically if the amount is at all large.

1. If the cause of the pericarditis is rheumatism, salicylic acid in some form should be continued unless it has been proved in this particular patient not to inhibit or control the disease. Alkalies, best in the form of sodium bicarbonate and potassium citrate, should be administered in full doses, so that the urine is distinctly alkaline. If the pericarditis is caused by some infection, whatever is necessary to treat the infection properly should be continued, with perhaps the addition of the above alkalies, as it should be remembered that whenever a patient is seriously ill, and but little or insufficient food is taken, or if there is much vomiting, and especially when there is nephritis, there is increased acidity of the body tissues and a decreased alkalinity of the blood readily occurs; in other words, acidosis is always imminent and is probably the final cause of many deaths.

2. Pain must be absolutely stopped with sufficient morphin. There can be no question of the seriousness of pain in this region and from this cause. With the stopping of the pain the heart is slowed and quieted, the nervous restlessness and anxiety is lessened, and the patient may obtain quiet, restful sleep, which is absolutely essential for the condition to improve.

If there is salicylism from the salicylates which it seems best or necessary to administer, it is well to reduce the amount, as it would take more morphin to cause sleep if the cerebrum is thus excited. While pain is in evidence and morphin is necessary, the amount of food administered should be very small, as it will not digest when the patient is under the influence of morphin.

Fortunately, this pain will generally be mostly relieved when the exudate occurs, if it is to occur. The repetition of the morphin should be according to the amount or continuance of the pain. The morphin should, of course, be stopped the moment the pain is abated.

The pain having ceased and morphin not being longer necessary, the patient should receive the diet that is the best for the disease which caused the pericarditis, with the exception that food should be given frequently and in small amount, as any distention of the stomach, which is likely to cause more cardiac dyspnea, should be avoided. Any particular food that causes gastric flatulence should also be avoided. The bowels should be moved by the drug and method found easiest and best.

3. The best treatment to inhibit the inflammation and possibly prevent exudate is the local application of the ice-bag or cold coil. If tolerated for the first hour, the patient will often not object to the cold, and if it quiets the heart, as it generally does, the application is grateful rather than objectionable. The cold rubber should not be directly applied to the skin, but should be separated from it by two layers of an ordinary handkerchief. A towel is generally too thick. The bag should not be so full as to be too weighty, and it is well to suspend it from some sort of a cradle so that the whole

weight will not press on the heart. Young children will often, of course, not tolerate the cold. There is no question that moist warmth will often relieve the local pain, and whether or not it will increase the tendency to exudate is undecided. Theoretically it is best avoided. Moist heat, however, is probably better than dry heat, as tending more to relax the surrounding surface circulation.

If an exudate occurs, the advisability of small fly-blisters must be considered. Simple counter-irritation from mustard often seems to be of benefit, but the fly-blister is much more valuable. They should not be large, and are perhaps well placed at the border of the heart rather than directly over it. Small blisters on different parts of the border-line of the cardiac dulness may be used on different days. Cantharides is, of course, the best blistering medicament, but should not be used if nephritis is present.

4. This indication is met by absolute rest and quiet in the position found most comfortable for the patient. Every movement of the patient must be slow; no movement must be quick. He must not be allowed to see anyone but his immediate attendants; he should not be allowed to talk, except concerning his immediate needs. The more he comfortably sleeps, the better, all of these factors tending to decrease the frequency of the heart-beats, and the less the frequency the less the irritation.

If the salicylates are not given, or the condition is not caused by rheumatism, and the heart is not weak, and the pulse is strong, aconite for twenty-four hours, to quiet the heart, may be given, unless the local ice treatment quiets the heart sufficiently. If it is necessary to give the patient a hypnotic such as chloral or one of the synthetic hypnotics, the aconite should not be given, as these drugs will quiet the heart. Unless there has been a prolonged infection which could have caused a myocarditis besides the pericarditis, the heart will not stop on account of lack of inherent strength, but may stop on account of the pressure from an exudate. Therefore, myocardial weakness need not ordinarily be feared, although in children, especially, sudden dilatation may occur.

If the pulse is weak, irregular, and perhaps intermittent, and degeneration of the heart muscle from prolonged infection or illness is not present, digitalis will be of great benefit. It will strengthen the individual beats and reduce the frequency. If the number of beats, by any method, is reduced twenty per minute, this would mean 1,200 beats less an hour, or 28,800 less in twenty-four hours. If the number of beats were reduced only half this amount, the value can easily be seen to be enormous. If digitalis is used, the dose should not be large, perhaps five drops of an assayed fat-free tincture once in six to eight hours.

5. Whether or not an exudate may be diminished and removed by medicinal treatment is a question that may be decided within a few days. Strenuous efforts to remove liquid from the body to prevent this serous exudate could probably not be inaugurated on account of the underlying sickness or cause of the pericarditis. Much purging is out of the question on account of its weakening effects. Profuse diaphoresis is generally totally out of the question. The efficiency of diuretics is always doubtful. The administration of potassium citrate and bicarbonate of soda, above suggested, will probably cause some diuresis. If digitalis is deemed advisable, it will doubtless cause more. The amount of liquid taken into the system should be somewhat restricted. It is possible that by these measures the amount of exudate may be limited and the exudate already present may become gradually absorbed. The local blisters above described also seem to cause resorption of the fluid.

Whether or not the exudate must be immediately removed depends not so much on its bulk as on the amount of dyspnea or cardiac distress that it is causing. Some patients tolerate a larger amount of exudate than others. It is well for an exploratory puncture to be made first to decide the character of the fluid in the pericardium. This will determine the size of the aspirating needle that is necessary. Perhaps the most frequently recommended point of puncture is in the fourth or fifth intercostal space, about an inch to the left of the sternal margin. Others advise doing paracentesis exactly in the region of the normal apex beat. The patient during this operation should lie down as nearly flat as he can. The fluid should be withdrawn very slowly and the pulse carefully watched. If the exploratory needle discovers pus, and there is great dyspnea, a larger aspirating needle should be inserted than for a simple serous exudate, and some of the pus withdrawn. A second more radical surgical procedure, of course, must take place as soon as possible.

If there is a sudden attack of dyspnea, and the heart seems about to fail, venesection has been recommended and done, and it is certainly justifiable. Strychnin may be used in a dose not exceeding 0.02 gm. (1/30 of a grain) once in six hours, hypodermatically, if deemed advisable, often with advantage. Too much strychnin, with dire results, has often been used in cardiac failure. It should not be used early in the disease, as excitation of the nervous system and the heart should be avoided. If the heart seems to be failing, intramuscular injections of an aseptic ergot in a dose of one ampule once in six hours, or two ampules at once in an emergency, often is the best possible heart treatment.

When the exudate has nearly disappeared and the acute inflammation seems over, there are doubtless considerable amounts of fibrin still in the bottom or in other parts of the pericardial sac, and as there is still the general belief that an iodid will aid in resorbing such kinds of exudates, it is good treatment to give a small dose of iodid three times a day, after meals. The best form is the sodium iodid, in small doses, not more than 0.20 gm. (3 grains).

As soon as there is slight improvement, the nutrition should be pushed carefully but surely, as the better the nutrition the more complete will be the resorption of the exudate. If during the active inflammation the patient can take but little nourishment, egg albumin must be given in considerable quantities, and if it is feared that the patient is failing from lack of nutrition, there should be no hesitation in giving a teaspoonful of brandy or whisky, properly diluted, once in three hours. This small amount will rarely increase the frequency of the heart beat, and will furnish something for the nutrition. Alcohol is not advisable and it is not necessary as a medicament in this disease, but it may be necessary to tide over a period of defective nutrition.

The convalescence of an acute pericarditis should be slow and careful. The longer before the heart is allowed to do extra work, the more complete is the removal of the fibrin, and the less likely that dangerous adhesions will form.

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[*For other information see second page following reading matter*]

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UNCINARIASIS IN THE MINES OF CALIFORNIA

In this issue appears an important article by Dr. Herbert Gunn, who reports that hookworm disease is found in 50 to 80 per cent. of the miners working in certain mines in California, and that the infection is present in Nevada mines also. This article is especially timely just now, when certain organizations interested in mining are making arrangements for an investigation as to the presence and prevalence of hookworm disease among American miners.

As early as 1902, Dr. Charles Wardell Stiles of the Public Health and Marine-Hospital Service determined that the infection was present among the copper-miners of the Virgilina district, the coal-miners of the Cumnock district, and in the region of the Haile gold-mines. In 1904 Wainwright and Nichols[1] examined 400 anthracite miners selected from fifteen different mines in Pennsylvania, and found one case of the infection. Since the discovery of the wide-spread distribution of hookworm disease in the United States, the men engaged in this investigation have repeatedly brought forward the point in their public addresses that, while in general the Potomac and Ohio Rivers may be looked on as the northern border of the endemic infection, we must be prepared to find cases farther north, more especially in our mines, and that unless rigid rules in mine sanitation are enforced, there is danger that at any time the hookworm problem in our American mines may become as important as in the mines of Europe. Considering the large numbers of southern negroes employed in some mines and the large numbers of immigrants from Europe in others, it seems strange indeed that the disease has not already been reported more frequently among American miners. The data now accessible call for a prompt and rigid investigation into the subject in all mining localities of the country.

If the experience of other countries be taken as a criterion, the indications are that in northern mining localities the infection will be found chiefly among the men who work underground, and relatively much less frequently among the women and children of the districts in question. In this respect, the age and sex distribution may be expected to differ from that noticed in the warmer agricultural regions.

So far as it is possible to prophesy at present, it seems probable that, in the greater part of the north, the European immigrants and the southern miners who go north will be the chief elements who will spread the infection, while in the far west the Asiatics must be held in mind as possible contributing factors. In all probability many of the hookworm cases which will be found among our miners in the North will be found due to the Old-World hookworm (*Ankylostoma duodenale*).

It is especially the humanitarian side of this question which interests us. At the same time, the economic side is one which we cannot afford to ignore. Gunn's estimate, therefore, that in one California mine the loss due to the infection is over $20,000 per year is worthy the attention of mine-owners. Let us not forget that it has already cost European mines hundreds of thousands of dollars to institute a campaign against this disease. The situation for the American mines was summarized[2] in 1907, as follows: "Whether the American coal-mines will experience a repetition of the sad and expensive history European mines have had from hookworm disease, will depend primarily on the sanitary regulations they enforce." It might be well for mine-owners to consider this warning, in connection with the statement by Wainwright and Nichols that "none of the anthracite mines of this country. . . has any privy facilities under ground. The men deposit their excreta in any chamber or gangway handy."

Until recently the Public Health and Marine-Hospital Service seemed to be the only federal bureau which really grasped the significance of the hookworm situation in this country, although the Medical Corps of the U. S. Army, because of the important work by Dr. B. K. Ashford, had for some years pointed out the importance of the disease in Porto Rico, and Ashford and King had made heroic efforts for its suppression on the island. About two years ago, the Bureau of Labor became interested in the problem, and it is reported that the present Commissioner of Labor, Mr. Neill, is thoroughly aroused to its importance. It is now reported also that the newly established Bureau of Mines is turning its serious consideration to the subject. The southern state boards of health have been doing most praiseworthy and efficient work in the campaign, and during this last year the educational interests have taken up the subject and are cooperating in a manner that is deserving of the highest praise.

Up to the present the agricultural organizations of the country in general, with some few exceptions, notably two southern agricultural journals, have not become aroused to the importance of hookworm disease on the farms, and statistics recently published, to the effect that a census of over 4,800 American farm homes shows that less than one-half of them are provided with a privy of any sort, should arouse our agricultural stations, bureaus, societies, etc., to immediate interest and action.

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[1] Med. News, April 23, 1904.

[2] In Osler's Modern Medicine, i, 592.

FERMENT ACTION IN PATHOLOGIC PROCESSES

That vital activity, in the broadest sense of the term, is most intimately associated with enzyme action, is a matter of common acceptation. In view of this, the investigation of the part played by ferments in pathologic processes has become of no small significance. In a recent article, Wohlgemuth[1] outlines the general progress that has been made in this direction. To review in detail the great amount of valuable work being done on this subject, both here and abroad, would be impossible at this time, and the present review is based solely on the account just cited. Practically only the borderland of this enormous field has been entered, and yet results have been obtained that indicate unmistakably the value of further work.

As would be expected *a priori*, different ferments occur in different tissues in varying proportions. So, for instance, oxidase appears to occur in proportion to the presence in a tissue of polynuclear leukocytes or their decomposition products. But whatever the tissue, one enzyme at least seems to be invariably present—the autolytic ferment. Enzymes other than those inherent in the tissue cells themselves not infrequently play a part in self-digestion, however. Thus, the autolysis in the pneumonic lung is greatly accelerated by the presence of the so-called leukocytic ferment, a proteolytic ferment limited apparently to the polynuclear leukocytes. The importance of such a ferment becomes at once evident when we consider the share it must take, for example, in such processes as the resolution of pneumonia or the absorption of fibrinous exudates. Non-contaminated tuberculous abscesses, characterized by infiltration with lymphocytes, do not possess such a ferment, until an immigration of polynuclear cells is induced, as by an irritant paste, and it is probably in this direction that the explanation of the therapeutic value of the latter is to be found. This leukocytic ferment is believed by Wohlgemuth to be the source of the great variation in the post-mortem clotting of blood. Of the three factors chiefly concerned—thrombogen, thrombokinase and fibrinogen—delayed clotting has been found to be mainly due to absence of the last. And Wohlgemuth believes that it is the proteolytic ferment liberated from decomposed leukocytes that causes disappearance of the fibrinogen. In this connection, the contradictory fact is of interest that in pneumonia, eminently a disease characterized by leukocytosis, we usually have a markedly increased coagulability of the blood.

Accelerated autolysis may result in other ways as well, as in such conditions as phosphorus poisoning and acute yellow atrophy. So, too, it is believed, though on uncertain evidence, that the shrinking of the puerperal uterus is of this character. Malignant tumors for the most part show the phenomenon in a marked degree, possessing also the property of hastening autolysis of the normal tissue, frequently with the production of abnormal cleavage products.

On the other hand, tumor cells may lack ferments present in normal cells, and may even produce changes in the enzyme content of normal cells of their host. So it has been found that at times the demonstrated ability of normal liver cells to digest carcinomatous tissue may disappear. Serum, also, which normally has a lytic action on carcinoma cells, may lose this in carcinomatous individuals—a phenomenon which throws light on the problem of hetero-inoculation and auto-inoculation of malignant growths.

Some attempts, only partially successful, have been made to simulate the abnormal ferment action of malignant growths. Particularly has this been done with melanosarcoma, and melanin-like substances have been produced in several ways—by the action of both vegetable ferments and of melanoma extracts on tyrosin and epinephrin. Inasmuch as little is known of the composition of melanin itself, such attempts must necessarily be inconclusive. The addition of the vegetable ferments to the inoculable sarcoma of mice has been found to cause pigmentation, though atypical in distribution, of the tumors *in vitro*, but not in the living animal.

Fat necrosis (in reality necrosis of tissue with fat-splitting)—the peculiar lesion produced by the escape of the juice of the pancreas into adjacent structures—has commonly been held to be the result of backing up of bile or of duodenal secretion into the pancreatic duct, with resultant activation of the pancreatic proferments and digestion of neighboring tissues. Since such necrosis often occurs at the tail of the pancreas, the portion which would be the last to be reached by an influx of intestinal secretion through the duct, this theory scarcely suffices. It has recently been found that the amino-acids resulting from proteid decomposition may produce activation of the secretions; so that slight local inflammatory processes, with subsequent autolysis, may be the true source of the activation and abnormal action of the secretion.

EXCEPTIONAL MEN AND HIGHER STANDARDS OF MEDICAL EDUCATION

In the discussion of educational standards, references are frequently made to physicians who have reached distinction, although they received their education at a time when lower standards prevailed. It is sometimes argued that the adoption of higher standards of preliminary education would prevent such men from studying medicine. Such exceptional men, however, were almost bound to succeed under any circumstances, and the fact is apparently overlooked that probably they succeeded in spite of their inferior advantages. How many more physicians of such marked success would there be, it may be asked, had the medical colleges of twenty or more years ago held to higher standards of admission and possessed better teachers, better-equipped laboratories and more ample clinical facilities? Even so, however, the graduate in medicine of twenty years ago was not so heavily handicapped as the graduate of to-day with the same inferior equipment, for the disparity between their attainments and the summit of medical knowledge was far less twenty years ago than it is to-day. Of course, at that time, the preliminary requirements which are exacted to-day were not necessary—scarcely possible.

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[1] Wohlgemuth: Berl. klin. Wchnschr., 1910, xlvii, 2182.

Those who question the value of a thorough preliminary education apparently fail to see that, after all, formal education is largely a device for saving time and labor, and that, as the volume of knowledge increases, the difficulty of mastering it increases likewise until the aid of such educational devices becomes indispensable. Mathematical knowledge, for instance, was scanty in Pythagoras' day; he spent the years of his mature life laboriously constructing and arranging the mathematical arguments which the modern schoolboy is expected to learn in a few months; and he gained his reputation as a mathematician without having heard of logarithms. No one to-day can attain even respectable mediocrity in mathematics, or any other science, without mastering more knowledge than the world once contained on that subject. Pythagoras and Euclid, if they were living to-day and were still without a modern mathematical education, would be no better qualified to cope with modern mathematics than the Chaldean astronomers would be to pass on the work of Newton and Herschel. And likewise, no one can now be considered passably well informed who is not acquainted with a range of subjects undreamed of by the intellectual giants of other days.

It seems scarcely more than yesterday that the very names of many of the sciences which to-day are subsidiary or auxiliary to medicine were unknown. There is no alternative: those who would keep abreast of the times must start on the journey equipped with the condensed experience of their predecessors; they must start as nearly as possible where their predecessors left off. It is a cruelty rather than a kindness, even to the students themselves, to foster the idea that the educational standards of yesterday are sufficient for to-day.

Incidentally, the requirement of higher preliminary standards to-day is not unreasonable, since there has been a corresponding increase in the opportunities for obtaining this higher training. Instead of hindering men of true worth from entering on the study of medicine, insistence on higher standards will have the most desirable result of weeding out the ignorant and unqualified, and of bringing about a higher degree of competency in the rank and file of the medical profession. With the present abundant oversupply of physicians, any reduction in the number resulting from higher educational standards will not be a serious matter, either for the public or the profession itself. At the same time, the number of well-trained and competent physicians will be materially increased. Clearly, the interests of the public, of the profession, and of individual practitioners will be best conserved by the adoption of higher standards in medical education.

Current Comment

AN INTERESTING BULLETIN ON STATE HYGIENE AND PROPHYLAXIS OF DISEASE

The Bulletin of the Ohio State Board of Health for the last quarter of 1910 contains seventeen papers presented at the conferences of village and township boards of health held at Cleveland in June and at Cincinnati in October. Such subjects are included as the control of contagious and infectious diseases, disease-carriers, facts and fallacies regarding the transmission of infectious diseases, a number of papers on typhoid fever and its prevention and management from the standpoint of the sanitarian, several papers on milk and its production, a paper on sanitation in villages without sewers, on school inspection, on abatement of nuisances, and others, and a report of contagious and infectious diseases. There are seldom gathered together in one pamphlet so many valuable papers on the important subjects of public health and sanitation as in this one. The several papers afford an almost complete program for the municipal health officer covering the prevention, control and eradication of infectious and communicable diseases.

REFORM IN ADVERTISING

While pharmacy is a profession, economic conditions, to a large extent, have made a tradesman of the owner of a drugstore. As such he is obliged to sell many things which, in view of his professional training, he knows the public would be better off without. In the same way, the drug journals advertise many things which the editor knows to be valueless or worse. Further, the editor must conduct his reading pages in such a way as not to give offense to his advertising patrons. Thus, while editors of drug journals like to talk about the ethics of pharmacy and are prone to indulge in glittering generalities as to the need of pharmaceutic advance, these editors have as a rule carefully refrained from noting the exposures of fraudulent medicines that have appeared in the columns of The Journal—exposures that supplied information which the pharmacist should have and must have if he is to be true to his profession; information that would enable him to protect the public, the physician and himself from the harm which ensues from the use of dishonest medicines. While thus, in general, drug journals have done little to spread The Journal's propaganda for reform, there have been two notable exceptions—the *Druggists Circular* of New York and the *American Journal of Pharmacy* of Philadelphia. These journals have not only kept their reading pages up to date, but they have kept their advertising pages practically free from all objectionable matter. We believe that, through the work initiated by The Journal, assisted by such drug journals as those mentioned, the nostrum-makers have been put on the retreat, and that the business will continue to be a dwindling one. Other pharmaceutic journals will not lose in the long run, even from a purely commercial standpoint, by taking the position assumed by the *Druggists Circular* and the *American Journal of Pharmacy*. In fact, we confidently expect them, one by one, to adopt the same policy. By so doing they will not only gain the respect of their own profession and of the medical profession, but—equally important—they will also be able to respect themselves.

THE POOR BOY AND MEDICAL EDUCATION

Much ostensible sympathy has been lavished on the poor boy who wants to get a medical education; and it would appear that the "poor boy's" chances are going to be slimmer still if the low standard or the night colleges cease to exist. Poor boy! Of course there is some basis for these arguments in the case of students who are poor in scholarship. Such students, however, have no place in modern medicine. The arguments are not only untrue regarding students of limited means, however, but they are also unfair to those students. As a rule, the student of limited means who is ambitious and energetic enough to work his way through college is the one who knows and seeks the best—who best knows the value of a good training as well as the value of money. This is evidenced by the fact that in our best medical colleges are many students who are not only working for most or all their expenses but who at the same time are attaining a high standard of scholarship. As a rule, these students do not need sympathy, but do arouse admiration. The only need of sympathy is for the occasional energetic, deserving student who is misled by the shrewdly worded announcement of some inferior college which not only provides him with an inferior medical training, but which may actually charge him larger fees[1] than he would have to pay in a first-class medical school. As a matter of fact the opportunities for the energetic student of limited means in high-grade medical schools were never so great as at the present time. Not only has a greater demand for student help been developed in our universities through the use of stenography, the typewriter, the mimeograph, and the like, as well as through the development of university printing plants and other modern activities, but also a larger number of scholarships are available for energetic students. Of more importance, probably, is the fact that for graduates of first-class medical colleges the chances for obtaining internships in good hospitals are rapidly increasing, and by this means even the student of limited finances may round out and complete his medical training. The student of limited means—the "poor boy"—will find that it is possible for him to get the best, and that the best pays.

UNITED STATES PUBLIC HEALTH SERVICE

Elsewhere in this issue[1] we print the bill recently introduced into both the House of Representatives and the Senate; in the former by Mr. Mann of Illinois, and in the latter by Senator Martin of Virginia. As will be noticed, this bill contains three provisions; the first, to change the title of the United States Public Health and Marine-Hospital Service; the second, to enlarge the functions of this service; and the third, to increase the salary of its officers. No one will deny the desirability of all three of these provisions. The only question is whether or not the passage of this bill will prevent further legislation, looking to a national department of health, or at least an independent bureau. The first provision would be the second step in eliminating the words "Marine-Hospital" from the title. Until 1902 the title was the "Marine-Hospital Service"; in that year a measure was passed which changed the title to the present one. If the present bill passes, the title will thereafter be the "United States Public Health Service." In the second place, the bill contains a provision to enlarge the functions by giving the service the authority to investigate "diseases of man" and the conditions that cause the spread of such disease, including sanitation and sewage, and the pollution, "either directly or indirectly," of all navigable streams or lakes. At the present time the service can investigate only certain contagious diseases and has no authority to investigate navigable waters. To the third provision, that to increase the salary of the officers, there can be no objection. In practically all the other departments of the government, the salary of the medical officers has been increased, and for several years attempts have been made to increase the salary of the men in this service, but without avail. Whatever may be the fate of this bill, continued efforts should be made in the way of constructive legislation, looking to a national department of health; we should stop at nothing short of this.

THE AUTOMOBILE NUMBER

The Fourth Annual Automobile Number of The Journal will be issued early in the spring. Numerous inquiries concerning it indicate that this year, as before, it will be warmly greeted. In the process of evolution, the automobile has become such an essential part of the business equipment of the active practitioner, and such a satisfactory means of recreation for one possessed of the necessary means and leisure, that the extensive discussion of previous years as to whether or not the physician should use a motor car will no longer be necessary. Furthermore, the previous automobile numbers are still available for consultation. That they are thus used is evident from the orders continually received for them and for the little folder giving the names of the cars. Space in the coming automobile number, therefore, can be used more appropriately for the discussion of roads, accessories, garages, tires and various other items of equipment, the proper care of the car, interesting, humorous—and sad—experiences, and other appropriate talk of the road. The question of upkeep is especially of importance; methods of reducing expenses are of vital interest. All owners of automobiles should keep itemized accounts of outlay; few do. It would be interesting to hear from some of the "few" as to the best method of keeping tab on what was once an expensive luxury but has now become an expensive necessity. As before, this will be an illustrated number, and sharp, clear pictures are desired to add to the interest and value. These may portray, not merely the car, but the physician also, with perhaps his house or garage, a sample road, the county hospital, etc., in the background, or else some interesting complication or difficult situation. Drawings of home-made devices, mechanical aids, garage plans, etc., are worth reproducing. Unless otherwise specially arranged by correspondence, manuscripts and photographs ought to be received during February; but in order to enable us to plan for the issue intelligently, all who intend to offer pictures or articles or both are asked to notify us by February 10.

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[1] The Journal A. M. A., Aug. 20, 1910, p. 695.

[1] Department of Medical Economics, page 293.

PREVENTIVE MEDICINE AT WASHINGTON UNIVERSITY

Since the future progress in medicine will doubtless be more along the line of preventing than of curing diseases, the recent action of Washington University, St. Louis, in creating a special chair in preventive medicine is both important and timely. Not only is it intended to give the usual didactic courses in this subject, but special clinics and special research courses will be conducted. At these clinics patients having infectious diseases, diseases due to social conditions, occupations, nutritional causes and the like, will be shown. Particular attention will be given to the etiology and the means of preventing such ailments. Of greater significance, however, is the fact that Dr. David L. Edsall, Professor of Medicine in the University of Pennsylvania, has been selected for this special chair in preventive medicine. Washington University is probably the first institution which has given such marked recognition to this subject. If the old adage is correct, an ounce of instruction along this particular line will be more productive of good than a pound of work along curative lines; and concentrated, well-directed effort in the study and teaching of preventive measures should bring excellent results. Meanwhile, the establishment of this special chair on so generous a plan is another proof of the determination of Washington University to build up in the middle west a medical school fully equipped to teach medicine along modern lines.

Tendon Transference in Poliomyelitis.—Tendon transference has failed in many hands because the mechanism of the condition has not been thoroughly understood. In the first place, the transferred muscle must be a strong, healthy muscle, and no attempt should be made to use one that is paretic even to a slight degree; secondly, the tendon must be made to parallel for a considerable distance the tendon for which it will in future act; thirdly, it must tunnel the subcutaneous fat, so that no adhesions will form.—W. G. Campbell, in *Memphis Medical Monthly*.

Medical News

ARIZONA

State Association Meeting.—The next annual meeting of the Arizona Medical Association will be held in Los Angeles, Cal., June 26. All of the business of the House of Delegates will be finished that day. The oration and a few papers will be read before the general meeting. The association will then adjourn to attend the meeting of the different sections of the American Medical Association. The annual banquet of the association will be held on the same evening.

County Society Meeting.—At the annual meeting of Cochise County Medical Association, held in Bisbee, January 7, the following officers were elected: president, Dr. Morris D. Cohen, Bisbee; vice-presidents, Drs. Harry A. Reese, Douglas, and Lucien L. Miner, Bisbee, and Lynn Tuttle, Douglas; secretary-treasurer, Dr. Thomas Watkins, Bisbee; censors, Drs. George A. Bridge, Bisbee, and Edward W. Adamson, Douglas; and delegate to the state association, Dr. Francis E. Shine, Bisbee.

CALIFORNIA

Election.—At the annual meeting of the Los Angeles County Medical Association, the following officers were elected: president, Dr. W. Jarvis Barlow; vice-president, Dr. Orville O. Witherbee; secretary-treasurer, Dr. George H. Kress; and councilors at large, Drs. H. Bert Ellis, William W. Richardson and Albert Soiland, all of Los Angeles.

Preparation for the A. M. A. Meeting.—It is announced that thus far Pasadena has made the best comparative showing in raising funds for the annual session of the A. M. A. next June. Extensive arrangements are planned for the entertainment of the *visiting physicians and their families, including a trip to* Catalina Island.——The directors of the Board of Trade of Pasadena have authorized the appointment of a committee of three to have in charge the entertainment of the American Medical Association at its meeting in Los Angeles in June.

ILLINOIS

State Sanatorium Bill Introduced.—Senator Glackin has introduced into the senate a bill appropriating $300,000 for a state sanatorium for tuberculosis.

"Helper of Mankind" Sentenced.—Julius Sefler, posing as a "Helper of Mankind," who uses the same kind of medicine for various ailments, passing his hands over the forehead and along the neck of his victims, is said to have been found guilty by a jury in the municipal court, Chicago, of practicing medicine without a license, and fined $100 and costs.

Elgin Hospital Charges Unfounded.—According to the report of Hon. A. L. Bowen, executive secretary of the State Charitable Commission, and Dr. J. L. Greene, alienist of the State Board of Administration, charges published in one of the Chicago daily papers, January 7, that a patient at the Elgin State Hospital had been beaten by the attendants, were without foundation. The investigation of the charges was made at the request of State's Attorney Dady of Lake County and was conducted in the presence of the patient's wife and the state's attorney, by the two officers above named. As stated, after a thorough investigation and physical examination, the charges were declared by State's Attorney Dady to be unwarranted and entirely unfounded, concurring in every respect with the opinions of Dr. Greene and Secretary Bowen. The wife of the patient also agreed to this finding, and refused to have her husband removed to the Kankakee State Hospital, preferring to have him remain at Elgin. The management of the institution under Dr. Sidney D. Wilgus was praised by State's Attorney Dady, who said it was as good as could be expected under all the surrounding conditions.

Chicago

Gift to Hospital.—The Maimonides-Kosher Hospital received a gift of $10,000, January 16, from Abraham Slimmer of Waverly, Iowa.

Schools Named after Physicians.—In addition to the Nicholas Senn high school, the site for which has been secured, Chicago schools are named after the following physicians: Daniel Brainard, William H. Byford, Nathan Smith Davis and Charles Warrington Earle.

[illegible] ting.—At the annual meeting of th [illegible] Society, held January 16, Dr. H [illegible] as elected president; Dr. Edwin V. L. Brown, vice-president; Dr. Willis O. Nance, secretary; and Dr. Thomas A. Woodruff, councilor.

New Tuberculosis Dispensary Opened.—The work of the Municipal Tuberculosis Dispensary is to be extended to negro residents of the city. At a meeting of the directors, January 11, it was decided to open a clinic for tuberculosis at Provident Hospital, West Thirty-Sixth and Dearborn Streets.

Personal.—A reception and banquet, in honor of the eightieth birthday anniversary of Dr. Nils T. Quales, was given January 17. A silver loving-cup was presented to Dr. Quales by Chicago Norwegians.——Dr. Matthew Karasek has been appointed temporary medical superintendent of the Iroquois Memorial Hospital, pending the permanent appointment by the Civil Service Commission.——Dr. and Mrs. Philip Frank Shaffner sail for Europe, January 28.

Work of the Winfield Sanatorium.—The record of the first two years' work of the Chicago-Winfield Tuberculosis Sanatorium, thirty miles from Chicago, conducted under the auspices of the Associated Jewish Charities of Chicago, a non-sectarian institution for the treatment of curable cases of pulmonary tuberculosis, shows that since the opening of the institution 224 patients have been admitted, forty-six of whom were children. Of these, 164 had been discharged up to Jan. 1, 1911, and sixty were at the institution on that date. Of the 164 discharged patients, 101 were in the incipient state of the disease on admission, forty-two moderately advanced state, and one far advanced. At the time of the discharge, in 82 per cent. of the incipient cases, the patients were apparently cured or the progress of the disease was arrested, and in eighteen improvement had taken place. Of the moderately advanced patients, in 52 per cent. the disease was arrested or apparently cured, 38 per cent. were improved, and 10 per cent. unimproved. The one patient in the far advanced stage is reported to be improved. Of the discharged incipient patients 94 per cent. have full or partial working capacity at present. Of those in the moderately advanced stage of the disease, 69 per cent. have at present full or partial working capacity, making a total of 86 per cent. of the discharged whose capacity for work is either full or partial. The sanatorium, which at first had a capacity of only twenty patients, now can accommodate sixty-eight, and this is shortly to be increased.

KANSAS

Medical School Located.—By unanimous vote of the regents of the state university, Kansas City has been selected as the proper site for the State Clinical Hospital and School of Medicine. The legislature will be asked to appropriate $150,000 for the school, of which $50,000 is to be applied to building a medical college and $100,000 for the erection of a hospital. The site must finally be decided by the legislature.

Elections.—Reno County Medical Society, at its annual meeting, held in Hutchinson, elected Dr. Charles S. Evans, president; Dr. Harry H. Heylmun, vice-president; Dr. John W. Young, secretary; Dr. William F. Schoor, treasurer, and Dr. M. Claude Roberts, censor, all of Hutchinson.——Wyandotte County Medical Society has elected the following officers: president, Dr. James W. May; secretary, Dr. J. Albert Fulton, and treasurer, Dr. Anna Roberts, all of Kansas City.——Montgomery County Medical Association met at Independence, recently and elected Dr. George McK. Seacat, Cherryvale, president; Dr. Joel N. Strawn, Elk City, vice-president, and Dr. James A. Pinkston, Independence, secretary.——At the seventh annual meeting of Bourbon County Medical Society, held in Fort Scott, Dr. Charles A. Van Velzer, Fort Scott, was elected president; Dr. James S. Cummings, Bronson, vice-president; Dr. John D. Hunter, Fort Scott, secretary, and Dr. Charles F. Harrar, Fort Scott, treasurer.——Douglas County Medical Society, at its annual meeting, held in Lawrence, January 10, elected Dr. George W. Jones, president; Dr. Harry L. Chambers, vice-president; Dr. Leon Matassarin, secretary, and Dr. Eugene Smith, treasurer, all of Lawrence.——At the annual meeting of Leavenworth County Medical Society, January 9, the following officers were elected: Dr. Harley J. Stacey, president; Dr. Charles J. McGee, vice-president, and Dr. Jacob L. Everhardy, secretary-treasurer, all of Leavenworth.——Neosho County Medical Society has elected Dr. William E. Royster, president; Dr. William E. Barker, vice-president; Dr. Andrew M. Davis, secretary, and Dr. Ralph A. Light, treasurer, all of Chanute.——Shawnee County Medical Society, at its annual meeting in Topeka, elected Dr. Melancthon C. Porter, president; Dr. Samuel A. Johnson, vice-president; Dr. H. Milton Connor, secretary, and Dr. John N. Beasley, treasurer, all of Topeka.

KENTUCKY

Officers Selected.—At the annual meeting of Christian County Medical Society, held in Hopkinsville, the following officers were elected: president, Dr. Oscar E. Wright, Hopkinsville; secretary, Dr. William S. Sandbach, Casky; censor, Dr. John H. Rice, Hopkinsville, and delegate to the state association, Dr. Austin Bell, Hopkinsville.

Cocain Recommended in School Text-Book.—At a recent meeting of the State Board of Health, held in Louisville, action was taken on a text-book in physiology used in the public schools of the state, condemning it because it recommends the use of cocain in toothache. A committee was appointed to draft a bill for presentation to the next legislature empowering the State Board of Health to act in conjunction with the State Board of Education in selecting text-books on physiology, chemistry, anatomy and hygiene for use in the public schools.

Louisville Temporary City Hospital Located.—The hospital commission has definitely decided the question of the location of the temporary hospital in which are to be housed the patients of the City Hospital during the building of the new hospital. The vote was a unit in favor of the University of Louisville Medical Department building at 517 S. Sixth Street. The engineer of the commission reported that the building can be made to accommodate 201 beds and that the probable cost of converting it into a temporary city hospital would be from $12,000 to $15,000. A letter will be sent to each architect in Louisville inviting plans for the new building.

MARYLAND

Election.—At the annual meeting of the Anne Arundel County Medical Society, held January 12, the following officers were elected: president, Dr. Thomas H. Brayshaw, Glen Burnie; vice-president, Dr. Jesse O. Purvis, Annapolis; secretary, Dr. Louis B. Henkel, Jr., Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis; censors, Drs. Harry B. Gantt, Millersville; William S. Welch, Annapolis, and John T. Russell, Annapolis; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Charles R. Winterson, and alternate, Dr. Samuel H. Anderson, Woodwardville.

Baltimore

Conference on Mental Hygiene.—During the week ending February 6, a national exhibit and conference on mental hygiene will be conducted in the hall of the Medical and Chirurgical Faculty of Maryland. A publicity committee has been appointed, of which Dr. Harvey G. Beck is chairman. The exhibit will be under the charge of Dr. Marshall L. Price, secretary, secretary of the State Board of Health.

MICHIGAN

Location for County Sanatorium Fixed.—The Houghton County Tuberculosis Sanatorium will be located on the grounds of the County Poor Farm, overlooking Portage Lake.

Bequest.—Harper Hospital, Detroit, has received a bequest of $35,000 for the endowment of free beds for men, women, boys and girls in that institution by the will of the late Octavia Bates Williams of Baltimore.

Sanatorium Opened.—The Detroit Tuberculosis Sanatorium, situated on Twelfth Street, just north of the city limits, was formally dedicated January 15. Dr. William A. Spitzley has been appointed attending surgeon of the institution.

Personal.—Dr. Warren H. Taylor, Flint, has been selected as physician for Genesee county.——Dr. Roy T. Urquart, Grand Rapids, sustained painful injuries by crushing his thumb in a car door in South Bend, Ind., January 13.

The Late Small-Pox Epidemic.—The cost of the late small-pox epidemic to the city and county of Saginaw has been about $75,000.——A bronze medal is to be presented to each member of the National Guard of Michigan who did duty at the Michigan Home for the Feeble-Minded, LaPeer, during the recent enforced small-pox quarantine.

Gubernatorial Appointments.—Governor Osborn, on January 5, sent to the senate his list of appointments, which includes Dr. Leartus Connor, Detroit, as member of the State Board of Health; Dr. Charles W. Hitchcock, Detroit, as member of the board of trustees of the Eastern Michigan Asylum, and Dr. Joseph B. Griswold, Grand Rapids, as a member of the board of trustees of the Michigan Soldiers' Home.

Illegal Practitioners Fined.—George W. Lands, East Gilead, convicted in the circuit court at Coldwater of practicing medicine without a license, is said to have been found guilty and sentenced to pay a fine of $75 and costs, amounting to a similar sum, or imprisonment in jail for fifty days.——Albert Churchill, Pellston, is said to have been fined $35 recently for the unlawful practice of veterinary medicine.

Regulates Admission of Patients to Hospital.—The Board of Regents of the University, on the recommendation of the medical faculty, has limited admission of patients to University Hospital to those whose admission is provided for by statutes; students in actual attendance at the university, emergency cases and patients sent to the hospital by a legally qualified physician. All other persons seeking admission to the hospital must make affidavit that they are not able to pay the ordinary charge of a physician. The abuse of the facilities of the hospital has not been extreme but has been sufficient to justify this action of the Board of Regents.

Farm School for Deficient Children.—At a meeting called by the Board of Education of Detroit, January 16, to arouse public sentiment in favor of establishing a farm training school for mentally deficient children, Dr. Henry H. Goddard and the superintendent, E. R. Johnstone of the New Jersey School for the Feeble-Minded, Vineland, delivered addresses. It was shown that on the average 3 per cent. of the children are imbeciles of various grades or idiots, making about 1,600 in Detroit at present; that nine-tenths of these are uncared-for children who cannot keep up in regular schools, notwithstanding the employment of special rooms for backward children; that these children largely recruit the criminal and pauper classes; that it is cheaper for the state to care for these patients in an institution which can be made largely self-supporting than to support them as criminals and paupers; and that heredity is the great cause of mental deficiency. It was urged that mentally deficient children be differentiated from simply dull children, by modern psychologic tests, and that these children be kept for life in a suitable public farm institution, that there they would be happier and more useful than at home, and would be prevented from propagating their kind.

MINNESOTA

Freed of Responsibility.—In the suit against Dr. Alexander R. Colvin, St. Paul, for damages alleged to have been received by a patient in the use of a defective brace, the jury decided in favor of Dr. Colvin.

Damages for Autopsy.—A jury in Minneapolis, January 13, is said to have returned a verdict of one dollar against Dr. S. Marx White, in a suit in which the plaintiff sued to recover $5,000 on the ground that a number of physicians had entered his home without permission and had dissected the body of his 2-year-old daughter who had died from anterior poliomyelitis, with the view to determine the manner in which the child had contracted the disease.

Elections.—At the annual meeting of the Minnesota Valley Medical Association held in Mankato, the following officers were elected: president, Dr. Louis A. Fritsche, New Ulm; vice-presidents, Drs. Herbert B. Aitkens, LeSueur Center, and John J. O'Hara, Janesville; secretary, Dr. Adolph G. Liedloff, Mankato, and treasurer, Dr. George F. Merritt, St. Peter.——Blue Earth County Medical Society held its annual meeting in Mankato, recently, and elected the following officers: president, Dr. Adolph G. Liedloff, Mankato; vice-president, Dr Charles E. Bigelow, Madison Lake; secretary, Dr. Thomas C. Kelly, Mankato; treasurer, Dr. Lida Osborn, Mankato, and censors, Drs. John W. Andrews and Edward W. Benham, Mankato.——The annual meeting of Park Region District and County Medical Society was held in Fergus Falls, January 12. Dr. Otto M. Haugan, Fergus Falls, was elected president; Dr. Andrew J. Gilkinson, Osakis, vice-president; and Dr. Luther A. Davis, Dalton, secretary-treasurer,

MISSOURI

Personal.—The governor of Missouri has refused to accept the resignation of Dr. Daniel Morton, St. Joseph, colonel and chief surgeon of the National Guard of Missouri.

Charge Dismissed.—Dr. James R. Hull, Monroe City, accused fourteen months ago of the murder of Prof. John T. Vaughn, was freed of the charge in the Circuit Court of Lancaster, January 2.

Bequest to Hospital.—By the will of the late Edward Knell, Carthage, $1,000 is bequeathed to the Carthage Hospital Association as a trust fund, the proceeds to be used in giving hospital benefits to poor and needy individuals of Carthage.

Health Board Election.—The State Board of Health, at its annual meeting in Jefferson City, January 9, elected Dr. Ernest F. Robinson, Kansas City, president; Dr. Frank B. Fuson, Springfield, vice-president; and Frank B. Hiller, Kahoka, secretary.

St. Louis

Donation for Hospital.—Joseph Shoenberg, L. D. Shoenberg and August, members of the Jewish Charitable Educational Union, have each given $25,000 toward the erection of a National Hospital in Denver.

State Masonic Sanitarium.—The Board of Directors of the Masonic Home has decided to erect a sanitarium, to cost $100,000, on the grounds of the home, Delmar Avenue, providing accommodation for forty-two patients.

Hospital Saturday and Sunday.—As the result of the collection on Hospital Saturday and Sunday, fourteen checks, making a total amount of $42,009.30, have been sent to fourteen hospitals of the city, the amounts varying from $11,719.33 to the St. Louis Children's Hospital, to $250 to Provident and St. Louis Maternity hospitals.

Antituberculosis Society Elects Directors.—At the annual meeting of the St. Louis Society for the Relief and Prevention of Tuberculosis, January 12, thirty-five directors were elected, including the following physicians: Frances L. Bishop, James Stewart and John C. Morfit. Dr. Morris C. Tuholske, secretary, and Dr. Theodore W. Conzelman, treasurer of the society, presented their resignations.

NEBRASKA

Physician Goes to Penitentiary.—The supreme court, on January 11, affirmed the sentence of the lower court, which charged Dr. William H. Johnson, Lincoln, formerly of Wymore, with complicity in the death of Amanda Mueller who died from the effects of a criminal operation, and sentenced him to two years imprisonment in the penitentiary.

Personal.—Dr. William B. Kern, Grand Island, has been appointed superintendent of the State Hospital for the Insane, Hastings, Dr. John T. Hay, Lincoln, of the institution at Lincoln, and Dr. Andrew Johnson, Omaha, of the institution at Norfolk.——Dr. William Edmond, Nebraska City, has been appointed physician at the Institute for the Blind, vice Dr. Frank S. Marnell, Nebraska City, resigned.——Dr. Charles A. Oaks, Seward, has been appointed a member of the staff of the Hastings State Hospital.——Dr. Lewis A. Fairchild, Peru, who has been seriously ill, is reported to be convalescent.——Dr. Henry S. Bell has been appointed physician to the State Industrial School, Kearney.——Drs. Frederick H. Kuegle, Westpoint, and H. R. Carson, Omaha, have been appointed physicians to the State Hospital, Hastings.——Dr. James G. Muir has been appointed surgeon of the Soldier's Home, Milford.——Dr. Harry J. Wertman has been appointed physician of the Industrial Home, Milford.

Society Meetings.—At the annual meeting of the Omaha-Douglas County Medical Association, held in Omaha, January 10, Dr. Leroy Crummer was elected president; Dr. Burton W. Christie, vice-president; Dr. Robert R. Hollister, secretary (reelected); Dr. Millard Langfeld, treasurer (reelected): and Dr. John E. Summers, Jr., member of the board of censors (reelected), all of Omaha.——Fillmore County Medical Society, at its annual meeting in Fairmont, elected Dr. Joseph Bixby, Geneva, president; Dr. Frederick L. Beck, Geneva, vice-president; Dr. Jesse M. Carr, Fairmont, secretary-treasurer; and Dr. V. V. Smrha, Milligan, censor.——Webster County Medical Association, at its annual meeting, reelected the following officers: president, Dr. Robert Damerell, Red Cloud; secretary, Dr. Hugh S. Reed, Guide Rock; and treasurer, Dr. Ira A. Pace, Guide Rock.——Elkhorn Valley Medical Society, at its annual meeting, held in Norfolk, January 11, elected the following officers: president, Dr. William R. Peters, Stanton; vice-presidents, Drs. Anders P. Overgaard, Fremont, and William L. Crosby, Beemer; and secretary, Dr. Harry J. Wells, West Point.

NEW JERSEY

State Medical Society Meeting.—At a meeting of the board of trustees of the Medical Society of New Jersey, January 12, it was decided to hold the annual meeting of the society at Spring Lake, June 13-15.

Gaynor Memorial.—The Gaynor Memorial Fund, amounting to $15,184.73, has been presented to St. Mary's Hospital, Hoboken. Of this amount, $5,000 is to endow a bed in the hospital to be known as the Gaynor bed. The balance will be applied toward the reduction of the debt on the hospital.

Officers of Home for Incurables Elected.—At the annual meeting of the Bide-A-Wee Home, held in Atlantic City, January 4, the following were elected as members of the medical board: Henry T. Harvey, Philadelphia, and Bernard R. Lee, Elisha C. Chew, Arthur E. Ewens and W. Edgar Darnell, consulting surgeons, all of Atlantic City. The Bide-A-Wee Home is a state institution for incurables and is located in the lower part of Longport.

Elections.—At the annual meeting of the Passaic City Medical Society, January 12, Dr. George T. Welch was elected president; Dr. Leo H. Joyce, vice-president; Dr. Joseph H. Oram, secretary, and Dr. Thomas Glasgow, treasurer.——Monmouth County Medical Society, at its annual meeting elected Dr. Peter P. Rafferty, Red Bank, president; Dr. Joseph T. Welch, Long Branch, vice-president; Edwin Field, Red Bank, secretary, and Dr. Isaac S. Long, Freehold, treasurer.

NEW YORK

State Hospital for Cancer Patients.—After ten years of research work supported by state funds, Dr. Harvey Gaylord has announced that he is prepared to supply a serum which has been shown to be effective in treating cancer. Senator Loomis has introduced a bill into the legislature appropriating $65,000 for the erection of a hospital adjoining the laboratory in Buffalo. The land for the building is to be donated to the state and the bill names as trustees of the institution. Drs. Roswell Park, William H. Gratwick and Charles Cary, Buffalo, John G. Milburn and Charles S. Fairchild, New York City, and Frederick S. Stephens, Attica.

State Tuberculosis Hospital Report.—During 1910 the State Hospital for Incipient Tuberculosis at Raybrook received 128 patients. Of these ninety, or 73.13 per cent. were discharged apparently recovered, meaning that examination showed that all constitutional symptoms or expectoration of bacilli had not been seen for a period of three months, and that physical signs indicated healed lesions. Of the remaining incipient cases, in twenty-four patients, or 19.53 per cent., the condition indicated arrest of the disease. Of the seventy-nine received in moderately advanced stages of the disease, four, or 5.43 per cent., apparently recovered, and forty-one, or 56.14 per cent., showed arrest of the disease. Of the twenty-five patients received in advanced stages of the disease, five, or 20 per cent., were benefited to the extent that the progress of the disease was arrested. Of the total number of patients treated and considered medically during the year 42.29 per cent. were classified as apparently recovered, and 84 per cent. had derived appreciable benefit.

New York Hospital Buys New Site.—This institution has bought as a site for a new home the entire block bounded by Fifty-Fourth and Fifty-Fifth Streets and Eleventh and Twelfth Avenues at a cost of about $1,000,000. This site was chosen because it provides amply for light and fresh air, being bounded on the west by the Hudson River and on the south by De Witt Clinton Park. It is stated that the proposed group of buildings will surpass any similar group in the city, but ground will not be broken for a year. The New York Hospital is the oldest hospital in the city, having been chartered by the authority of King George III in 1771. In 1775, when the first building was complete, it was nearly destroyed by fire and it was not until 1791 that the hospital was enabled to begin its work. Among the governors of the institution in bygone days were John Adams, Aaron Burr, Thomas Buchanan and John Jay. During the past year the hospital and associated institutions treated about 70,000 patients and answered 9,000 ambulance calls.

New Commitment Plan.—At the convention of the State Bar Association in Syracuse on January 20 the report of the special committee on the commitment and discharge of the criminal insane was discussed and the following was offered in the place of Section 20 of the penal law:

> If in the trial of any person accused of any offence it appears to the jury on the evidence that such person did the act charged, but was at the time insane, so as not to be responsible for his actions, the jury shall return a special verdict, "guilty, but insane," and thereupon the court shall sentence such person to confinement in a state asylum for the criminal insane for such term as he would have had to serve in prison but for the finding of insanity; and if on the expiration of such term it shall appear to the court that such person is still insane, his confinement in such asylum shall continue during his insanity; and further, when such a verdict of "guilty, but insane," is returned in a case where the penalty for the verdict of guilty against a sane person is death, such sentence for the insane person thus found guilty shall be for life, and in all such cases the governor shall have the power of pardon after such inquiry as he may see fit to institute, on the question whether it will be safe to the public to allow such person to go at large.

The report will be circulated broadcast throughout the state for the purpose of arousing public opinion.

Buffalo

Election of Officers.—At the annua [illegible] County Medical Society, held in Buffa [illegible] were elected: president, Dr. Daniel V. [illegible] Dr. Thomas H. McKee; secretary, Dr. Franklin C. Gram; treasurer, Dr. Albert T. Lytle; censors, Drs. John H. Grant, Francis E. Fronczak, Arthur G. Bennett, George L. Brown and Lawrence Hendee; and delegates to the state society, Drs. John H. Pryor, Frederick C. Busch, Edward Clark, George J. Eckel and Eli H. Long.——The Buffalo Physical Education Society has elected the following officers: president, Dr. James W. Putnam; vice-president, Dr. Lesser Kauffman, and secretary-treasurer, Miss Alta J. Wiggins.

Hospital Situation in Buffalo.—A report submitted by invitation to the joint hospital committee of the Buffalo Common Council by the standing Committee on hospitals of the State Charities Aid Association summarizes the situation as follows:

1. The present hospital situation in Buffalo is such that a new hospital must be built either by the county or by the city.
2. This new hospital should be separated entirely from any connection with the poor department and the almshouse. It is not meant for paupers, and it requires different standards of administration.
3. This hospital should provide for a minimum of 720 beds; 200 for tuberculosis, 200 for chronic cases, 100 for acute cases, 200 for contagious cases and 20 for detention cases.
4. It will be more economical for the community to build and maintain one general hospital than to build and maintain two separate institutions under different management.
5. A general municipal hospital should be built by the city, which is the logical body to have control, inasmuch as it furnishes 85 per cent. of the money and 90 per cent. of the patients.
6. The construction and management of the hospital should be entrusted to a board of managers as provided by Chapter 558 of the laws of 1910.
7. The hospital should be centrally located to insure better attendance by physicians, avoid long transportation of the patients, and secure better service and more convenience for the people.
8. The hospital should be built in accordance with a comprehensive plan adequate for the rapidly increasing needs of the growing city.

New York City

Brooklyn Hospital Out of Existence.—The Long Island Throat Hospital and Ear Infirmary has turned over its building, valued at $15,000, to the Brooklyn Eye and Ear Infimary as it felt that the latter institution was better prepared to carry on the work.

Italian Medical Society.—The officers of the New York Italian Medical Society for the current year are as follows: president, Dr. Antonio Stella; vice-presidents, Drs. Paolo Virdone, Brooklyn, and Giuseppe DiSanti; secretary, Dr. Rocco Bellantoni; and treasurer, Dr. Antonio Vernaglia.

Office Building for Physicians.—Plans have been filed for a new office building on Madison avenue, twenty-five stories in height, to be occupied exclusively by physicians and dentists.——The Physicians' Building, 40 East Forty-First Street, was opened for inspection, January 13. The space in the building is said to be almost entirely rented to physicians.

Finances of Academy of Medicine.—The report of the treasurer of the New York Academy of Medicine for the year ended December 15, shows the following assets: building and land, $504,426.59; mortgages, $117,500; savings banks, $7,226.36; library, $80,000; unpaid dues, $535; rents due, $125; cash on hand, $14,859.17; total, $724,672.12. The liabilities show the following: trust funds, $629,152.95; unexpended balances in trust funds, $3,433.85; prepaid dues, $165; total, $632,751.80. Excess of assets over liabilities, $91,920.32.

Bellevue Alumni Prizes.—The two annual prizes of $100 each offered by the society of the Alumni of Bellevue Hospital to the members of the house staff for the best papers based on observation and clinical study have been awarded this year to Drs. Alexander Hunter Schmitt for his essay on "The Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Fallopian Tubes," and to Dr. Frederick Lane Brown for his "Report of a Case of Infective Endocarditis Associated with an Unidentified Liquefying Bacillus."

Campaign to Supply Milk for Babies.—The Committee on Infant Mortality, of which Dr. Godfrey R. Pisek is chairman, started its campaign to raise $300,000 for the yearly maintenance of sixty milk stations throughout the Borough of Manhattan at a meeting held at the Plaza Hotel. On this occasion it was announced that the city budget for 1911 contains an appropriation of $40,000 for the support of milk stations. Dr. Abraham Jacobi argued that more could be done to lessen infant mortality by sending nurses into the home to explain to mothers than by lengthy lectures from eminent doctors.

Child Welfare Exhibition.—After a year's work by 300 specialists and 1,500 other persons interested in children, the Child Welfare Exhibit opened on January 18 in the Seventy-First Regiment Armory at Park Avenue and Thirty-Fourth Street. The primary object of the exhibit is to educate parents in the proper upbringing of children, considered from every possible point of view. Conferences are held every afternoon and evening and the subjects discussed embrace education, homes, recreation, work, health, law and the child and private philanthropy. Experts and specialists from all parts of the country will take part in these conferences. The exhibit will continue for several weeks.

Scholarship in Ophthalmology.—A scholarship in ophthalmology has been founded by the sons and daughter of Abram DuBois, who have presented Columbia University with $18,000 for a fund to be known as "The Dr. Abram DuBois Memorial Fund." The scholarship is open to graduates of the College of Physicians and Surgeons who have satisfactorily completed a term of service in an eye hospital, and have given evidence of serious intention of pursuing ophthalmology as a specialty. The income from the fund amounts to about $700 a year, and the holder of the scholarship is expected to devote himself to postgraduate study in foreign and American universities, preferably of a scientific character in connection with ophthalmology.

Anniversary Meeting.—The Society of the Alumni of Bellevue Hospital will celebrate its twenty-fifth anniversary February 28. There will be a reunion at the hospital in the afternoon with a staff reception, visits to wards and operating rooms and opportunity for examination of the present work of the institution. In the evening a reception will be held, followed by a banquet. The society numbers 332, each of whom must possess diploma showing his service on the hospital staff, with the exception of the permanent associate members, those who have been on the visiting staff for at least five years, and honorary members, of whom there are three, Drs. William T. Councilman, Boston, William J. Mayo, Rochester, Minn., and William Osler, Oxford, England.

Bequests to Charity.—The will of the late George L. Fox of Brooklyn bequeaths almost his entire estate valued at more than a million dollars to various charities. The following institutions have received gifts: Eastern District Hospital and Dispensary, $100,000; St. Catherine's Hospital, $25,000; Brooklyn Hospital, $20,000; St. Mary's Hospital, $25,000; German Hospital, $25,000; Jewish Hospital, $25,000; Home for Consumptives, $10,000; St. John's Hospital, Long Island City, $20,000, and New York Ophthalmic and Aural Institute, $10,000. The residuary estate, the value of which has not yet been computed, is bequeathed to the Brooklyn Bureau of Charities and the Brooklyn Association for Improving the Condition of the Poor. A substantial part of the residue is to be used for the benefit of crippled and blind children.——The will of the late Isaac Stern gives Mount Sinai Hospital, of which Mr. Stern was the president, $10,000 for the creation of the Isaac and Virginia Stern Endowment Fund.

The Prevention of Insanity.—The first public meeting in the campaign for the prevention of insanity was held at the New York Academy of Medicine, December 23. The meeting was conducted by the committee on mental hygiene of the State Charities Aid Association. Homer Folks advocated a campaign of publicity and education similar to that employed in the fight against tuberculosis. Dr. Albert Warren Ferris, president of the State Commission in Lunacy, stated that there was one insane person to every 279 of the population. He considered the use of alcoholic beverages the greatest cause of insanity and thought that immigration was also responsible for filling insanity wards. Dr. M. Allen Starr thought that many of the external causes of insanity could be controlled and urged the establishment of more dispensaries for the treatment of this form of disease. Pamphlets pointing out the causes of insanity and describing the early symptoms have been prepared for general distribution.

The Gibbs Memorial Prize.—The New York Academy of Medicine announces that five of its members will constitute a permanent committee of award for the Edward N. Gibbs Memorial Prize for Research on Diseases of the Kidney. The committee will also select the candidates. The award is to be advertised at intervals of not less than two years in medical journals and otherwise. Candidates must be physicians of not less than three years' experience, must be residents of the United States, and must furnish evidence of research already performed and of ability to prosecute the special work required. The research is to comprise original work on the causation, pathology, or new methods of treatment of diseases of the kidney. From the applicants the committee selects the one offering the best credentials, who shall from time to time be awarded the income of the prize fund for a term not to exceed three years, but it at all times retains the power to reject any unsatisfactory work. The completed research is to be presented in the form of a thesis bearing an appropriate title.

NORTH DAKOTA

Personal.—Dr. Howard A. LaMoure, superintendent of the State Hospital for Feeble-Minded, Grafton, has resigned and has been succeeded by Dr. Arthur R. T. Wylie, first assistant in the Minnesota Home for Feeble-Minded, Faribault.——Dr. and Mrs. N. Oliver Ranstad, Bismarck, have returned from Europe.——Dr. P. J. Weyrens, Sheldon, has been appointed physician of Ransom county.

Society Meetings.—Medical men of Hettinger County met in New England recently and organized the Hettinger County Medical Association and elected the following officers: president, Dr. James W. Stribling, New England; vice-president, Dr. J. Hamilton, Bentley, and secretary-treasurer, Dr. Fred T. Rucker, Mott.——At the annual meeting of the Stutsman County Medical Society, Dr. Gustave Goldseth, Jamestown, was elected president; Dr. Gilbert D. Todd, Medina, vice-president; Dr. William W. Wood, Jamestown, secretary-treasurer; Dr. W. Albert Gerrish, Jamestown, censor, and Dr. Adolphus W. Guest, Jamestown, delegate to the state society.

OHIO

Midwives Arraigned.—During the last week seven midwives of Cleveland were arraigned and fined for illegal practice. The fines were suspended and the women warned to obey the law in the future.

In Penitentiary.—Among the prisoners received at the state penitentiary, Columbus, December 27, was Dr. Andrew A. Pew, Dayton, recently convicted of performing an illegal operation and sentenced to five years' imprisonment.

Isolation Hospital Opened.—Cleveland has just opened a contagious disease hospital which has cost $135,000, and is said to be one of the finest and most modern in the country. The building is divided into four distinct sections and can accommodate 100 patients and 22 nurses.

State Meeting-Place and Date Fixed.—The Council of the Ohio State Medical Association, at its meeting in Cleveland, January 12, decided to hold the next meeting of the association in Cleveland, May 8 to 11. The Chamber of Commerce and the Engineers' Auditorium are selected as meeting places.

Barker in Cleveland.—Dr. Lewellys F. Barker of Johns Hopkins University gave an address before the Cleveland Academy of Medicine, January 16, under the auspices of the Western Reserve Chapter of the Alpha Omega Alpha Medical Fraternity. Following the meeting a smoker was held in honor of Dr. Barker at the University Club.

Gift to Hospital.— The Babies' Dispensary and Hospital, Cleveland, has received a donation of $100,000 from Mr. and Mrs. J. H. Wade as a memorial to Mrs. Anna R. Wade. This gift will enable the hospital to pay in full for the new dispensary and milk laboratory now under construction, and also for the purchase of sufficient land to give a frontage of 175 feet on East Thirty-Fifth Street. The new building will be ready for occupancy February 1.

Elections.—At the annual meeting of the Portage County Medical Society, held in Ravenna, January 12, the following officers were elected: president, Dr. Joseph H. Krape, Kent; vice-president, Dr. Eugene B. Dyson, Rootstown; secretary, Dr. Cyrus O. Jaster, Ravenna (reelected), and treasurer, Dr. Emily J. Widdecombe, Kent (reelected). At the annual banquet given by Dr. Wilford W. White, Ravenna, the retiring president, Dr. T. Clarke Miller, Massillon, delivered an address on "The Conservation of Human Life."——The Cleveland Academy of Medicine, at its annual meeting, elected the following officers: president, Dr. Walter B. Laffer; vice-president, Dr. [illegible]; secretary, Dr. Oliver A. Weber; treasurer, [illegible], and trustees, Dr. William T. Corlett and Clyde E. Ford.

OKLAHOMA

State Board President Acquitted.—Dr. William T. Tilly, Muskogee, president of the State Board of Medical Examiners, was charged with criminal libel on complaint of Dr. J. D. Hensley, Oklahoma City; the jury, on instruction from the court, found that the information was insufficient to sustain the charge, returned a verdict of not guilty.

Personal.—Dr. John Dice McLaren, of the State University, of Oklahoma, Norman, professor of physiology and experimental medicine, and secretary of the Medical School of the State University of Oklahoma, Norman, has resigned to accept the professorship of physiology in the Oregon State University Medical Department, Portland.——Fire in Lawton, December 30, caused $1,400 damage to the office of Dr. Henry A. Angus, and $250 to the office of Dr. John W. Malcolm.

Physician Wins Libel Suit.—Dr. G. F. Border, chief surgeon of the Border Hospital, Mangum, is said to have recovered judgment in the case brought in the Greer County District Court for $50,000 against Drs. Milton M. Dearmon, Thomas J. Dodson and Porter Norton, who are said to have written a libelous letter to the Pottawatomie County Medical Society, January 11, 1909. The presiding judge instructed the jury that the communication complained of was libelous and unprivileged.

Annual Elections.—The sixteenth annual meeting of the Central Oklahoma Medical Association was held in Enid, January 10. The following officers were elected: president, Dr. Fred H. Clark, El Reno; vice-presidents, Drs. Edwin D. Ebright, Enid, and Charles E. Thompson, Kremlin, and secretary-treasurer, Dr. M. M. Rollin, Oklahoma City.——Canadian County Medical Association, at its annual meeting in El Reno, elected Dr. Ralph F. Koons, president; Dr. Stephen S. Sanger, Yukon, vice-president; Dr. James T. Riley, El Reno, secretary-treasurer; Dr. Thomas M. Aderhold, El Reno, delegate to the state association, and Dr. Ralph E. Runkle, El Reno, censor.——Garfield County Medical Society, at its annual meeting in Enid, elected Dr. Mahlon A. Kelso, Enid, president; Dr. Jones, secretary; Dr. Wallace A. Aitkin and Chanley J. Lukens, Enid, censors.——At the annual meeting of the Oklahoma County Medical Society, at Oklahoma City, Dr. Robert M. Howard was elected president; Dr. John A. Reck, vice-president; Dr. William R. Bevan, secretary, and Dr. Arthur A. Will, censor, all of Oklahoma City.——Comanche County Medical Association, at its annual meeting, held in Lawton, elected the following officers: president, Dr. Jackson Broshears, Lawton; vice-president, Dr. T. J. Gipson, Taupa, and secretary-treasurer, Dr. David A. Meyers, Lawton.——The annual election of officers of the Tulsa County Medical Association resulted as follows: president, Dr. Ross Grosshart; vice-president, Dr. Paul R. Brown; secretary, Dr. Walter E. Wright, and treasurer, Dr. Seth De Z. Hawley.

PENNSYLVANIA

Philadelphia

Failed to Register Births.—Information charging sixteen physicians of the city with failure to register births were made by the state health authorities, January 11. The arrests are [illegible] formal.

Institute of Anatomy.—The old Philadelphia Dental College at Eleventh and Clinton Streets, which was purchased several months ago by Jefferson Medical College for $45,000, is to undergo extensive remodeling, and on completion will be conducted in connection with the college, as the Daniel Baugh Institute of Anatomy.

Personal.—Dr. Edgar Fahs Smith was the guest of honor at a dinner given by his associates in the chemical laboratory of the University of Pennsylvania, at the University Club on January 11.——Dr. Gwilym G. Davis has been made professor of orthopedic surgery in the University of Pennsylvania.——Dr. Alfred Heineberg has been made chief of the gynecologic clinic of Mount Sinai Hospital.——Dr. H. Brooker Mills has been elected assistant professor of pediatrics in the Medico-Chirurgical College of Philadelphia.

Officers Elected.—At a meeting of the Philadelphia Pediatric Society, January 10, the following officers were elected: president, Dr. James T. Rugh; vice-presidents, Drs. Theodore Le-Boutillier, Arthur Newlin and William N. Bradley; secretary, Dr. Maurice Ostheimer; treasurer, Dr. Howard C. Carpenter, and librarian, Dr. Charles F. Judson.——Philadelphia County Medical Society, at its meeting, January 18, elected the following officers: president, Dr. Christian B. Longenecker; first vice-president, Dr. Levi J. Hammond; associate vice-presidents, South Branch, Dr. William N. Bradley; Kensington Branch, Dr. Thomas R. Currie; West Branch, Dr. Henry D. Jump; Northeast Branch, Dr. Frank Embery; Southeast Branch, Dr. Aaron Bray; secretary, Dr. William S. Wray; assistant secretary, Dr. Herbert B. Carpenter; treasurer, Dr. Collier L. Bower, and censor, Dr. Lewis H. Adler, Jr. The society passed resolutions urging an investigation by a state commission of the appropriations from the state treasurer to hospitals, and also suggested the appointment of a joint committee of the senate, house of representatives, the State Board of Charities, and licensed physicians to investigate state institutions.——The South Branch of the Philadelphia County Medical Society, at a meeting December 30, elected Dr. Stuart C. Runkle, president; Dr. William N. Bradley, vice-president; Dr. Paul B. Cassidy, secretary.——West Philadelphia Medical Society, at a meeting, January 2, elected Dr. Hiram L. Lutz, president; Dr. Charles P. Pike, vice-president; Dr. Henry G. Munson, corresponding secretary; Dr. Walter M. Miller, financial secretary, and Dr. Edmund L. Graf, treasurer.——At the annual meeting of the College of Physicians and Surgeons, January 4, Dr. George E. deSchweinitz was reelected president; Dr. James C. Wilson, vice-president; Dr. Thomas R. Neilson, secretary; Dr. Richard H. Harte, treasurer; Dr. Frederick P. Henry, honorary librarian; Dr. Francis X. Dercum and William T. Shoemaker, councilors; and Drs. Richard A. Cleemann, S. Weir Mitchell, Arthur V. Meigs and James Tyson, censors.

UTAH

Medical Journal Changes.— The *Utah Medical Journal* announces that it has become an independent journal, with none of its past affiliations. The editorial management is in the hands of Dr. Frederick Clift, Salt Lake City. The associate editors are Dr. Eugene H. Smith, Ogden; Horace G. Merrill, Provo, and Russell J. Smith, Logan.

Personal.—Dr. Charles G. Plummer, Salt Lake City, who has been seriously ill with septicemia at the L. D. S. Hospital, is reported to be improving.——Dr. R. E. Worrell, who underwent operation for septicemia at the Dee Memorial Hospital, Ogden, January 1, is reported to be convalescent.——Dr. John A. Hensel, Eureka, has been appointed physician of Jurab County.

New County Officers.—At the annual meeting of the Utah County Medical Society, held in Provo, Dr. David Westwood, Provo, was elected president; Drs. Oscar A. Grau, Pleasant Grove, vice-president, and Horace G. Merrill, Provo, secretary-treasurer.——At the annual meeting of Salt Lake County Medical Society, Dr. Eugene W. Whitney was elected president; Dr. T. Catlett Gibson, vice-president; Dr. W. Brown Ewing, secretary (reelected); Dr. Robert R. Hampton, treasurer (reelected), and Dr. Robert W. Fisher, censor (reelected).

WASHINGTON

Sanitarium Established at Pasco.—Dr. William W. Watkins, Pasco, has established a sanitarium in that place.

Unlicensed Practitioner Fined.—Fanny Leake Cummings, Seattle, said to have been convicted of practicing medicine without a license, has been fined $250 and costs.

Health Board Election.—At the annual meeting of the State Board of Health, held in Olympia, January 9, Dr. Edwin L. Kimball, Spokane, was elected president, and Dr. Elmer E. Heg, Seattle, was reelected secretary.

Physicians in House of Representatives.—The House of Representatives of Washington has three physicians as members: Drs. Walter T. Christensen and James A. Ghent, Seattle, and Dr. William M. Beach, Shelton.

Beriberi in Seattle.—One man is said to have died, another to be dying in a hospital, and four others to be seriously ill with beriberi due to an outbreak on the British steamship *Beachy*, which arrived at Seattle recently from China.

Personal.—Dr. Stephen D. Brazeau, Spokane, has returned after a year abroad.——The Cle Elum-Roslyn Hospital Board has elected the following staff: Dr. Edward W. Stimpson, Roslyn, chief surgeon; and Drs. H. H. Keenan and H. Quaife, Roslyn; W. E. Keehl and Julius G. Newgord, Cle Elum, and E. Heston, Jonesville.

Tuberculosis Notes.—The state supreme court has ruled that tuberculosis sanatoriums are nuisances and should not be established in the residence portion of a city. This ruling was made on appeal from the superior court of King County which refused to grant a restraining order against a tuberculosis sanatorium in Seattle.——The Fort Spokane Indian Sanatorium has been closed and the eighteen patients and nurses have been sent to sanatoriums in Phoenix, Ariz., Lapwai, Ida., Ogema, Minn., and Tacoma.

WISCONSIN

Abduction Charge Fails.—Dr. John B. Spalding, health commissioner of Kenosha, who was arrested on a charge of kidnaping, December 23, was exonerated at his trial in Chicago, January 17.

Charges Dismissed.—Charges against F. L. Mertens and Dr. Nelson Washington, charged respectively with practicing medicine without a license and with malpractice, were dismissed by stipulation in the circuit court at Milwaukee, January 12.

Fined for Unlawful Practice.—B. W. Kinzie, Milwaukee, charged with unlawful practice of medicine, is said to have been fined $50 and costs. Sentence was suspended on two counts charging E. R. Binte and B. H. Binte with similar offenses.

Medical Board Wins.—In the case of S. R. Jansheski, Milwaukee, a so-called chiropractic, charged with advertising himself as a physician, the trial consumed five days, and the jury returned a verdict of guilty within thirty minutes. The case was prosecuted by the attorney of the Wisconsin State Board of Medical Examiners.

Personal.—Dr. Frederick W. Byers, Monroe, who has been seriously ill with cerebral hemorrhage, is reported to be gaining slowly.——Dr. Warren B. Hill has been elected president of the trustees of the Emergency Hospital, Milwaukee.——Dr. Robert W. Blumenthal, Milwaukee, who was operated on recently for appendicitis at the Milwaukee Hospital, has recovered.——Dr. Herman L. Nahin has been elected coroner of Milwaukee County, and has appointed Drs. Arthur Reitman and R. O. Friederich as his assistants, all of Milwaukee.——Dr. James R. Kellogg has succeeded his father, Dr. Alonzo C. Kellogg, as a member of the advisory board of the State Tuberculosis Sanatorium, Wales, both of Portage.

GENERAL NEWS

School Hygienists to Meet.—The fifth Congress of the American School Hygiene Association will be held in the Academy of Medicine, New York City, February 2-4, under the presidency of Dr. Luther H. Gulick, New York City. Among the titles on the program are "The Problem of Teaching Sex Hygiene," "Vital Results of Open-Air Kindergarten," "The Relative Communicability, Dissemination and Prevention of Contagious Diseases," "Studies in Fatigue," "The Work of the Public Health Education Committee of the American Medical Association," "What Cities are Doing for the Health of Children," "The Physical Condition of Country as Compared with City Children," "School Instruction in Sex Hygiene" and "Individual Instruction in Personal Hygiene."

Meeting of Medical Reserve Corps.—The officers of the Medical Corps and Medical Reserve Corps of the Army met in Chicago, January 21. Col. L. Mervin Maus, Medical Corps, U. S. Army, presided, and Brigadier-General Bernard J. D. Irwin, Medical Corps, U. S. Army, retired, was the guest of honor. Representatives from the Medical Corps of the Army and Public Health and Marine-Hospital Service were also present. The object of the meeting was to bring together members of the Medical Reserve Corps in Chicago, and get them in closer touch with the medical officers of the united services. Addresses were made by Drs. Arthur D. Bevan, Albert J. Ochsner, Charles L. Mix, E. Wyllys Andrews, George W. Webster and others. It is expected that the next meeting of the corps will be held at Fort Sheridan during the summer.

Fraternity Meets.—The annual meeting of the Phi Chi Medical Fraternity was held in Louisville, December 29-31. The fraternity decided to hold its next meeting in Indianapolis. The resolution proposing to grant charters to no medical school not in Class A, according to the reports of the American Medical Association and the Rockefeller Foundation was not adopted, but it was resolved that hereafter no medical school, not recommended by the American Medical Association, will be given a charter. The following officers were elected: Dr. George W. Leavell, Louisville, grand presiding senior; Dr. J. A. Price, Atlanta, Ga., grand presiding junior; Dr. Thomas B. Pearson, editor-in-chief of the *Phi Chi Quarterly;* Drs. A. B. Elkins and Charles L. Koontz, Louisville, honorary editors; Dr. T. Elmer Grubbs, Los Angeles, associate editor; and Dr. Charles W. Hibbett, chairman of the executive trustees.

Association of American Medical Colleges.—The twenty-first annual meeting of this association will be held in Chicago at the Congress Hotel, February 27-28. The association will consider for adoption the report of the curriculum committee submitted last year, and any amendments which may be proposed, such as the more perfect regulation of the administration of entrance requirements and the elimination of conditions. The report of the committee on pedagogics will consider some very essential phases of medical teaching. The report of the committee on education will contain many recommendations for action. Papers will be read by the following: "Requirements for Admission to the Medical Course," George E. McLean, president, University of Iowa; "The Fifth or Hospital Year," Dr. F. F. Wesbrook, University of Minnesota; "Administration of Entrance Requirements," Dr. B. D. Harison, Michigan State Board of Registration in Medicine; "The Medical Library," Dr. C. M. Jackson, University of Missouri; "Unity of Purpose; Unity of Action," Dr. J. A. Witherspoon, Vanderbilt University. The secretary is Dr. Fred C. Zapffe, 3431 Lexington Street, Chicago.

Dr. Ashford's Work on Hookworm.—Major Bailey K. Ashford, Medical Corps, U. S. A., who has had charge of the fight against the hookworm in Porto Rico, arrived in New York, on December 26 on the steamer *Caracas.* He called attention, remarks the *Army and Navy Journal,* to the out-of-the-wayness of Porto Rico, as shown by the fact that the medical officers of the army had been fighting the hookworm long before the discovery of the disease in the southern states, and yet the press heralded that discovery as something new. Since 1904 there have been 300,000 cases of hookworm on the island. The Porto Ricans at last awakened from their lethargy when the army medical men proved to them that thousands were dying needlessly through a preventable disease contracted in most cases through the contact of healthy skin with infected earth, the coffee districts appearing to be the most infected. In the five years up to and including a part of 1909, of the thousands of patients treated only 426 have died. Major Ashford will return to his important work as soon as the health of his wife permits. The unflagging zeal of Major Ashford, his untiring enthusiasm and inspiring confidence in the ultimate victory of his crusade have been one of the most striking and beautiful evidences of the personal interest which officers of the service have taken in the work which the results of the Spanish War suddenly threw on them. The very quietness of his campaign against the disease indicates that he finds his reward in results rather than in the applause and notoriety of newspaper laudation.

FOREIGN NEWS

Ten Years of the German Society for Protection of the Economic Interests of the Profession.—This imposing title is generally shortened to the Leipziger Verband. This association is now exactly ten years old and numbers 23,500 members. The Verband has been involved in 1,700 disputes between the compulsory sickness insurance societies and their medical officers, and has carried all but a few to a successful outcome. It has also been instrumental in securing positions or locations for 17,000 physicians. This organized force has become a power in Germany, the effects of which are far-reaching and enduring.

Plague in Manchuria.—Cable reports of January 23 state that the epidemic of bubonic plague in Manchuria threatens international danger and that the Chinese government is instructing its ministers abroad to invite the governments to which they are accredited to send experts to the affected districts to study the plague and means for its extermination. The government offers to bear the expense of the crusade. Fudziadian, a suburb of Harbin and the particular plague spot of Manchuria, is to be isolated as the first systematic step to be taken toward exterminating the plague that has grown more threatening every day. This was decided on at a conference of the taotai and English and Chinese physicians said to have been brought about by pressure from the Russian government. The cable dispatch adds that a Russian physician who has just completed an inspection of Fudziadian, discovered three plague sources in the neighborhood of which 7,000 persons reside. Corpses are piled high in the streets and in the yards adjoining the homes. Last week there were 1,500 deaths in Fudziadian, and twenty-four bodies have been picked up in the streets of Harbin. Mukden, Kirin and Tieling have been invaded by the disease. Deaths among the Chinese employees of the Harbin mills are likely to result in the infection being carried in the foodstuffs exported to Amur and the maritime provinces. In the suburbs of Fudziadian the Chinese and European physicians are said to have been beaten by the soldiers.

Festschrift for Kernig's Seventieth Birthday.—The issue of the *St. Petersburg. Wochenschrift* for November 19 is a large *Festnummer* in honor of the seventieth birthday of Woldemar Kernig, the leading internist of Russia. It contains twenty-six articles in German from prominent Russian clinicians who have studied under him in the course of his thirty years' connection with the Obuchow Hospital at St. Petersburg. The list includes Cholzoff's report of his technic and results with suprapubic prostatectomy in two sittings, which he claims is such a harmless operation that even decrepit patients, with the kidneys in bad condition, bear it without injury. The interval between the opening of the bladder and the removal of the prostate varies from three weeks to three months according to the condition of the patient. He lost three out of eleven patients with prostatectomy done at one sitting, but only one out of the twenty in which this two-sittings technic was followed. Another article is by Wladimiroff on the diagnosis of glanders by the anaphylaxis reaction. Another by L. Krewer discusses the diagnosis of brain syphilis, the very baffling manifoldness of the symptoms being, he says, the clue to the syphilitic origin of the syndrome observed. Among his fifty-nine patients with cerebral syphilis, thirty-five were cured by antisyphilitic treatment and all the others were materially improved except five, that is, 8.48 per cent., who succumbed. In all the fatal cases there had been epileptiform seizures. The absence of an aura with these epileptiform seizures, developing in adults, speaks further for the syphilitic origin, especially when the attacks occur in series, and the convulsion seems to be limited to certain groups of muscles and the consciousness is not entirely lost and does not seem quite intact during the intervals. Abelmann reports experiences which sustain the importance of determination of the ferments in the stools and the antiferments in the blood as an aid to differential diagnosis in children. A historical sketch of cholera in Russia, by F. Dörbek, states that cholera was unknown in that country until 1830, when the first epidemic of cholera invaded Europe, and here, too, by way of Russia, starting in Astrachan, after it had been smouldering in India for fourteen years.

MANILA LETTER

(From Our Regular Correspondent)

Manila, Dec. 13, 1910.

Plague in Shanghai, China

The health authorities of Manila have been closely watching the development and spread of an epidemic of plague in Shanghai, China, which is reported to be still progressing.

There seems little doubt that plague has been effectually stamped out in the Philippines. It has been so long since a case has occurred here that probably no one, however pessimistic, can be found who would venture to make a statement to the contrary. The Bureau of Health is proud of this achievement and resents any statement tending to suggest that the disease still exists here.

The epidemic at Shanghai is of a serious nature and has greatly alarmed the foreign population. The disease is mostly confined to the thickly crowded Chinese section of the town but the inability of the health authorities to cope with the situation, due mostly to the opposition of the Chinese, places the large foreign section in an apprehensive situation. In the beginning of December, it was reported that the Chinese and the foreigners were cooperating in the eradication of the pestilence and were doing effective work quite harmoniously, but now we are informed by cable that "the plague is still taking great toll from the Chinese section of the city but native resentment against the strict attitude of the authorities is proving a great obstacle to its extermination." Deaths from plague are no longer reported because the Chinese are up in arms against sanitary measures. There have been a number of disturbances in the affected districts—shortly after the sanitary measures were first put on there was more or less serious rioting and several persons met death by violence. This seems to have been due to the autocratic attitude of the foreign health authorities in trying to force stringent regulations of modern western sanitation on the Oriental through the medium of the Occidental. As a result they have been compelled to back up and begin again at the proper place but with a serious handicap. It behooves Manila, and perhaps San Francisco and Seattle, to increase their vigilance in regard to inspection of commerce and passengers from or via Shanghai.

The plan of the campaign of eradication of plague as given by the *National Review* (Shanghai) is as follows: "A house-to-house inspection is carried on by women inspectors accompanied by Chinese doctors, both the ladies and the physicians being fully qualified according to western standards. The campaign is under the supervision of Dr. Cox of the health department of the British settlement of Shanghai, at the invitation of the leading Chinese.

"Whenever a case of suspected plague occurs in a house the inmates are sent to the Chinese Isolation Hospital and there are kept under observation, their clothing being meanwhile fumigated and disinfected and their house, immediately they have left it, barricaded off by means of a corrugated iron fence sunk 2 feet deep in the soil and so erected as to leave no loophole through which rats can escape. While the barricading is going on, the interior walls and floors are sprayed with a disinfectant by means of the hand spray. This operation being over, a quantity of sulphur is placed in iron bowls, and these bowls set floating in tubs of water, one in each room of the house, or block of houses, and when this sulphur is lighted all doors and windows are closed, all crevices and open joints in doors, walls or windows are plastered over with tough brown paper, so that the houses, so far as possible, are without ingress for outside air or egress for the sulphur fumes. Fumigation is allowed twenty-four hours, at the end of which time the doors are opened, and then all hollow ceilings or walls are broken down, when a number of dead rats are always found and these are so disposed of as to prevent their being a source of further infection. When the hollow walls have been destroyed they are replaced by solid brick walls; and in the case of the uptorn hollow floors the several inches of rattery, in which has collected the almost indescribable filth that has found its way through the crevices of the frequently rotten floor, are filled up with clean ashes and rubble, to the original level of the floor beams. On this basis of ashes and rubble a layer of cement or asphalt is laid and the floor thus becomes quite solid and too poor to feed a church mouse, let alone a rat. To finish off the work the walls and ceiling are thoroughly whitewashed and then the house becomes habitable again."

The outcome of these measures will be watched with interest for it is the first time that western sanitary measures have been put into effect on so large a scale in time of peace in any Chinese community. Although there seems to be a growing demand for modern medicine in China, still medicine is so closely bound up with religion, superstition and the so-called Oriental philosophy that western medical standards will at best be but slowly adopted.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 6, 1911.

Cremation in France and Abroad

From the official report on funerals it appears that in 1909 there were fewer cremations in France than in 1908. Abroad, the progress of cremation has been marked. In 1909 there were 13,500 cremations in the whole of Europe.

France and Belgium Agree in Regard to the Practice of Medicine on the Common Frontiers

France and Belgium have just come to an agreement according to which practitioners in medicine, surgery and obstetrics, as well as midwives and veterinarians residing in the border communes on either side of the frontier, are authorized to practice in the bordering communes across the line in which there are no resident physicians. The right of practicing in bordering communes of the neighboring country, however, does not give the right of being on a permanent footing there, of becoming domiciled there or of maintaining offices there.

Mineral Waters and Table Waters

To put an end to the numerous abuses in the sale of the so-called mineral waters, the superior council of hygiene of France has just decided that (1) "mineral water" is a water to which therapeutic properties are ascribed; it should be recognized as such by the Académie de médecine of Paris, authorized by the government and exploited under the conditions specified by the official organization; (2) "natural mineral water" in bottles is labeled so that it may be distinguished from other bottled waters; (3) in the exploitation of other waters, especially table waters, the employment of descriptive terms implying therapeutic properties is to be forbidden.

The Will of Dr. Henri Huchard

The late Dr. Huchard has bequeathed to the Académie de médecine a sum of $20,000 (100,000 francs) to found an annual prize to aid young students, who like his son, Marcel Huchard, in whose memory the prize is founded, are victims to professional devotion and to enable them to continue their studies.

An Institute of Infantile Hygiene

The general council of the department of the Seine has just voted to establish an institute of puericulture, which is to be both a popular center for the dissemination of knowledge of infantile hygiene, and a scientific center for the study of all questions related to infant-feeding, open to students, physicians, teachers, midwives, etc. Each year, more than 2,500 new-born infants are abandoned in Paris. These infants are to be examined by physicians and some selected to be entrusted to nurses who come regularly from the country to seek the little protégés of the city of Paris. The weakest and most undeveloped infants, and those which have contagious diseases or hereditary taint, are retained. They offer an ample field of study for physicians and students who wish to observe the growth of normal and feeble infants, to study the methods of artificial feeding, etc. But in order that the institute may serve for the popularization of infantile hygiene, Dr. Variot, the superintendent, proposes to install in the asylum a milk station in which unmarried mothers who wish to keep their children will receive aid and medical advice, if they nurse their children themselves, and good sterilized milk, if they are obliged to use the bottle. The new institute also will arrange conferences for teachers, who, according to the new programs, are obliged to give to young pupils the most elementary ideas of the care of children.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 5, 1911.

University Study in Germany

After the foundation of the German empire, the number of matriculates at the German universities increased from about 13,000 at such a remarkable rate that in the eighties the number had doubled and in 1904 had tripled. In the current semester 54,822 are enrolled as opposed to 52,407 in the previous year.

The yearly increase, 2,415, is somewhat smaller than that of the previous year, 3,670. The attraction of the university is moreover felt in neighboring countries; the French universities last year had 42,000 students. Of the entire number at present attending German universities, 52,404 are men and 2,418 women as compared with 50,557 and 1,850 in the previous year. At the ten Prussian universities, there are enrolled this winter 28,675 students (27,244 last year), in the three Bavarian, 9,341 (9,082); in the two Baden, 4,254 (4,101); and in the other six, including the imperial at Strasburg, 12,552 (11,980). The forward movement of physicians has continued, the number being 11,240 (as compared with 10,135 last year and 8,088 five years ago). Also with philologists, philosophers and historians, the marked increase of late years has not yet ceased. The smaller number of Protestant theologic students shows some improvement, as their number has increased to 2,535. There are 1,766 Catholic theologic students. Law students have diminished to a slight extent, their number being 10,890 (12,160), also dentists and students of pharmacy, the former from 1,395 in the previous year to 1,146, the latter from 1,279 to 954. It is interesting to determine the distribution of the German student body among the individual state universities and the changes that have lately occurred in this respect. Erlangen, Würzburg and Giessen have fallen off and the most marked increase has occurred at Halle, Jena, Kiel, Tübingen and Rostock. The University of Berlin retains its prominence, standing at the head with 9,686, and Munich holds the second place with 6,905.

If among the students attending the German universities there are also reckoned the so-called "Gastzuhörer," 3,528 men and 1,772 women, there are at the present time 60,122 persons receiving instruction at the German universities, a number not hitherto reached. The increase of the Berlin university which amounts to 883 students above the previous year is especially to be attributed to the attraction of the jubilee exercises.

In this increase of attendance, women have contributed proportionately more than men. In the various departments, the increase in attendance has been proportionally the greatest among theologic and medical students, the medical including 1,705 men and 159 women. European foreign countries send 841 men and 103 women; and those outside of Europe 145 men and 65 women; 69 more than last year come from America and 69 men from Asia. The Kaiser Wilhelm Academy for instruction in military medicine has this winter 414 students. Study by women has increased so that this winter there are 2,412 women, representing 4.4 per cent. of the German student body, as opposed to 2,169 (3.5 per cent.) last summer. This marked increase depends on an increased attendance from the empire itself and especially from Prussia; there are only 320 foreign women, of whom about half come from Russia and a third from America. In the different departments of university study, the present women students are distributed as follows: philosophy, philology, history and related studies, 1,370 as compared with 975 last year, medicine by 527, last year 476; natural science and mathematics 356 (287), dentistry 49 (46), civics and agriculture 60 (27), evangelical theology 7 (5) and pharmacy 5 (3).

Every year more and more, the educated women are devoting themselves to two fields; higher work in teaching and medicine. A third of all the female students are found at the University of Berlin, 806 (as compared with 626 last summer). At the ten Prussian universities 1,671 women are enrolled, at the three Bavarian 236, at the two Baden 370 and at the six remaining only 235. In the increase of women students, the Prussian universities have a much greater share than those in southern Germany. With the 1,772 women who are admitted this winter to the university lectures as listeners, the number of women attending the German universities at present amount to 4,184.

Carnegie Foundation for Life-Saving

As you already know from the newspapers, your great philanthropist, Andrew Carnegie, has contributed $1,250,000 to Germany for the purpose as expressed in his letter to the Kaiser, of diminishing the misfortunes connected with heroic efforts of saving human lives throughout the German empire and on its waters which have as a result the death or the invalidism of the life-savers. As may easily be understood, this new proof of magnanimous philanthropy has produced a great impression in Germany and especially with the emperor, who is peculiarly appreciative of all humanitarian efforts of this sort. In his letter of thanks, the emperor said: "The foundation will contribute to a large extent to the fulfilment in future of the duty of mankind to care for the victims of noble self-sacrifice in a way that has not before been possible. It will arouse in noble men the wish to perform acts of life-saving as they will lose all anxiety for the future of those they leave behind." Among those who are considered especially worthy of assistance are physicians. These are to be represented in the board of trustees of the foundation. The Kaiser himself has assumed the honorary protectorate.

International Exposition of Cripple Aid

An international exposition of aids for cripples will be held in connection with the International Hygiene Exposition in Dresden in 1911 and will have its own pavilion under the charge of the German association for the aid of cripples which will give any required information regarding the exposition through its business bureau (Berlin W. Bayreuther St. [illegible]). Everything dealing with the care of cripples will be arranged in a systematic way in six different groups: (1) historical, developmental, statistical and literary data; (2) medical activity in the care of cripples; forms of disease, methods of treatment, results; (3) schools for cripples, ethical and religious education, practical instruction by schools; workshops; (4) social, legal and economic aspects; (5) building and arrangement of cripple homes and aid stations; (6) the cripple in art and literature. Each group will be arranged by a special overseer so that a complete supervision will be secured.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 3, 1911.

Child Labor in Austria

In a report by the school physicians, attention was called to the fact that the majority of working school children showed a very bad standard of physical fitness for the requirements of life. The matter was investigated by a committee under the auspices of a political party, and the results thus obtained are now brought to the knowledge of legislators with a view to obtaining adequate laws for the protection of children. In Vienna alone, 111,622 children under 14 years were engaged in work at home; 17,355 were employed in other households; 11,100 were working partly at home and partly out of the house, and 1,281 children were, so to say, independent workers, street vendors or the like. That this labor is not harmless is evident from its duration; 23 per cent. of all such children worked less than four hours a day, 37 per cent. were busy for four hours, 20 per cent. for eight hours, 1 per cent. for ten hours daily, 0.3 per cent. even more than that, while the remainder had no definite working hours. These figures hold good for the winter half year. In summer time the conditions are worse, for the children have to work longer, 7.6 per cent. having a working day of over ten hours. The work is always done by school children. The mental work must be added to the physical work in order to find out the real amount of labor thus demanded of undeveloped individuals. The number of working hours thus arrived at amounted to fifty hours per week on an average; while 8 per cent. had more than sixty hours per week in winter, and more than 72 per cent. of the children in the summer had over sixty weekly work hours. This gives one the impression that the underfed children had longer working hours than the grown-up people.

Attempts to reduce the hours of school attendance for children employed otherwise have resulted only in increase of other work for them. In our country, school attendance is compulsory for all children between 6 and 15. Therefore, they have to sacrifice a good deal of the night to do the work demanded of them. Twenty-three per cent. of all working children had night work too; some had only from two to four weeks per year; some sixteen weeks; others even a longer period and 16 per cent. had night work too all the year round. The financial result of such "sweating" hardly counterbalances the detrimental effects of this system. The reports of the school physicians mention that the health of 103,877 children (75 per cent.) of those examined was unsatisfactory. The effects of physical work on cerebration were manifestly bad. Such a condition naturally affects national health and national power, for in our country military service is also compulsory; the overworked children cannot grow into fit soldiers. Therefore public interest is deeply involved in the proper solution of this problem.

Antituberculosis Campaign at Budapest

Since the International Medical Congress met in Budapest, the public authorities have become attentive to the necessities of modern hygiene, which hitherto have been somewhat neglected in the city. The latest scheme deals with the prevention of tuberculosis. A far-reaching campaign has been worked out by two men who already have done much to bring the public to an understanding on this point, Dr. Tauszk and Dr. Ruthy. One of the most radical features of the plan is the compulsory removal of infected persons into a special tuberculosis district, to be laid out in the hilly northeastern parts of the kingdom. Apart from that, the erection of a sufficient number of sanitariums is also planned. Tuberculosis is very frequent in the capital because of the congestion of the people in a small area. In Budapest, overcrowding is the result of a shameless policy by the houseowners, who have pushed up rents to a prohibitive height for smaller lodgings. In fact, several instances of a lodgers' strike have been witnessed there. The effects on the health of the poorer classes can be easily imagined. Mortality among children is high especially; 30 per cent. of all infants in the poorer population do not reach the end of their first year.

Attempted Organization of Hungarian Contract Practitioners

The contracts which hitherto have been the basis for apportionments of physicians to the industrial work are now being revised by a committee of physicians, who are trying to bring about an organization of the practitioners for this purpose. A strike which broke out recently ended unfavorably for the physicians, owing to the lack of discipline. A quiet but radical agitation is now working to bring about the required and desired union of physicians in Hungary, after which a renewed attempt will be made to improve the present condition of contract practice.

Marriages

PAUL L. ASHLEY, M.D., Wibaux, Mont., to Miss Mabel Reid, at Cleveland, January 16.

PHILIP FRANK SHAFFNER, M.D., to Miss Beatrice Melanie Weil, both of Chicago, January 18.

FREDERICK AUGUSTUS WASHBURN, M.D., to Miss Amy Silsbee Appleton, both of Boston, January 9.

ELMER ELLSWORTH KEPNER, M.D., to Miss Mamie Katherine Smith, both of Cleveland, January 3.

JAMES G. LAMB, M.D., Fisher, Ill., to Miss Elnora Larson of Voorhies, Ill., at Bement, Ill., January 4.

CHARLES RANSOM REYNOLDS, M.D., U. S. Army, to Miss Jane Boyd Hurd of Watkins, N. Y., December 26.

Deaths

William Grier, M.D. Surgeon-General, U. S. Navy, retired, died at his home in Washington, January 11, aged 94. Dr. Grier received his medical education in Baltimore and was appointed assistant surgeon, U. S. Navy, March 7, 1838; was made passed assistant surgeon in 1852; served during the Mexican and Civil Wars; was afterward a member and later president of the Naval Examining Board, and in 1877 was made surgeon-general, chief of the Bureau of Medicine and Surgery with the rank of commodore, and was retired on account of age, Oct. 5, 1878, after seventeen years and seven months of sea service and seventeen years and seven months of shore or other duty.

Harvey Lyman Rosenberry, M.D. Starling Medical College, Columbus, 1883; a member of the American Medical Association; formerly president of the Marathon County (Wis.) Medical Society; president of the Ninth Councilor District Medical Society; physician to the Marathon County Asylum for the Chronic Insane, and Marathon County Home and Hospital; president of the local board of pension examiners; medical director of the Great Northern Life Insurance Company; died at his home in Wausau, Wis., January 11, from cerebral hemorrhage, aged 53.

William Smith Ely, M.D. College of Physicians and Surgeons, New York City, 1867; a member of the American Medical Association and New York Academy of Medicine; formerly president of the Medical Society of the State of New York; for twenty years a member of the State Board of Medical Examiners; assistant surgeon of the One Hundred and Eighth New York Volunteer Infantry during the Civil War; for many years a trustee of the University of Rochester; died at his home in Rochester, January 15, from angina pectoris, aged 69.

John Flint, M.D. Harvard Medical School, 1903; passed assistant surgeon, U. S. Navy; a member of the American Medical Association; died in the Naval Hospital, Chelsea, Mass., January 11, from pneumonia, aged 34. After his service in the Massachusetts General Hospital, Dr. Flint entered the navy as an assistant surgeon in April, 1904, resigning in September of the same year. He then practiced in Chicago for a time, but reentered the medical corps of the navy in 1906, and was promoted to passed assistant surgeon in February, 1909.

Francis P. Casey, M.D. College of Physicians and Surgeons, New York City, 1864; of Auburn, N. Y.; from 1862 to 1864 medical cadet in the army and afterwards assistant surgeon of the Eighth New York Volunteer Artillery during the Civil War; who after the close of the war, went abroad and entered the Roumanian service and later served for one year as surgeon during the Russo-Turkish War; died in a hospital in New York City, January 3, from erysipelas, following an operation for a growth on the forehead, aged 69.

Lewis A. Querner, M.D. Medical College of Ohio, Cincinnati, 1867; a member of the Ohio State Medical Association and Cincinnati Academy of Medicine; formerly workhouse physician of Cincinnati; surgeon for the fire department for eight years, and for the police department for three years, and for one term coroner of Hamilton County; a hospital steward during the Civil War; died at his home in Cincinnati, January 7, from valvular heart disease, aged 65.

William Hull Ramsey, M.D. Beaumont Hospital Medical College, St. Louis, 1897; Medical Reserve Corps, U. S. Army; attending surgeon headquarters Department of the Missouri, Omaha; division surgeon for the Missouri Pacific System; associate professor of anatomy in the University of Nebraska; died suddenly in his hotel in Omaha, January 14, from chronic interstitial nephritis, aged 38.

Clarence Wright Heath, M.D. College of Physicians and Surgeons, Chicago, 1900; a member of the American Medical Association; oculist to the Erring Woman's Refuge of Reform and St. Joseph's Hospital; instructor in ophthalmology in the Chicago Policlinic; died in Mercy Hospital, Benton Harbor, Mich., January 16, from pneumonia, aged 40.

Charles Edward Inches, M.D. Harvard Medical School, 1865; a member of the Massachusetts Medical Society; assistant surgeon of the Thirty-Seventh and later of the Twentieth Massachusetts Volunteer Infantry during the Civil War; for several years physician to the North End Dispensary; died at his home in Boston, January 11, aged 70.

William Wolfe Lesem, M.D. College of Physicians and Surgeons, New York City, 1903; a member of the American Medical Association; and visiting physician to the City, Children's and Mount Sinai Hospitals; a specialist on nervous and tal diseases; died at his home, January 10, from cerebral hemorrhage, aged 32.

Charles Baeder Williams, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Medical Society of the State of Pennsylvania, and resident physician of the Pennsylvania Hospital for the Insane, Philadelphia; died in the Pennsylvania Hospital, January 9, three days after a surgical operation, aged 45.

Mary Ann Holbrook, M.D. University of Michigan, Ann Arbor, 1880; for six years a medical missionary of the A. B. C. F. M., in Tung Cho, North China; and later teacher of science in the Kobe (Japan) College for Women; died in East Haven, Conn., December 2, from pneumonia, aged 56.

John Perrine Gilbert, M.D. New York University, New York City, 1856; assistant surgeon U. S. Navy, and later surgeon of volunteers during the Civil War; at one time postmaster of Long Island City; health officer of the town of Lyons, N. Y.; died at his home, January 7, aged 81.

James Monroe Graham, M.D. Maryland Medical College, Baltimore, 1902; a member of the Medical Society of Virginia; of Sidney, Neb.; formerly of Willis, Va.; died in the Methodist Episcopal Hospital in Omaha, January 9, from tuberculosis of the kidneys, aged 32.

Warren G. Priest, M.D. Washington University, St. Louis, 1878; for eight years chief dispensary physician and since that time chief vaccine physician of the St. Louis Health Department; died in the Koch Hospital, St. Louis, January 11, from tuberculosis, aged 56.

Edward Kirkland Shelmerdine, M.D. University of Pennsylvania, Philadelphia, 1900; of Germantown, Philadelphia; surgeon to the Philadelphia Rapid Transit Company; died in the Germantown Hospital, January 10, after an operation for appendicitis, aged 39.

Fred Smith Hutchinson, M.D. University of Vermont, Burlington, 1882; a member of the Vermont State Medical Society; died at his home in Enosburg Falls, January 6, from internal injuries resulting from being thrown from his sleigh three days before, aged 49.

Albert Joseph Mayer, M.D. Tulane University of Louisiana, New Orleans, 1902; a member of the American Medical Association; a member of the staff of the Touro Infirmary; died at his home in New Orleans, January 14, from influenza, aged 33.

William S. Leiter, M.D. College of Physicians and Surgeons, Chicago, 1890; of Claypool, Ind.; a member of the American Medical Association; is said to have committed suicide by hanging himself in his home in Claypool, January 12, aged 45.

John Wesley Harrison, M.D. Atlanta County (Ga.) Medical College, 1859; Medical College of Virginia, Richmond, 1860; a Confederate veteran; died at his home in Kempner, Tex., November 27, from pneumonia, aged 72.

Berwick Bruce Lanier, M.D. University of Maryland, Baltimore, 1892; for several years associate professor of principles of surgery in his alma mater; died at his home in Baltimore, January 1, from disease of the liver, aged 41.

John P. Lave, M.D. New York University, New York City, 1878; a member of the American Roentgen-Ray Society; first police surgeon of Chicago; died at his home in that city, January 15, from locomotor ataxia, aged 54.

Laban Langstaff Bradshaw, M.D. Bellevue Hospital Medical College, 1880; a member of the American Medical Association and New York Academy of Medicine; died at his home in New York City, January 9, from hemophilia, aged 57.

Edwin H. Botts, M.D. Fort Wayne (Ind.) College of Medicine, 1893; formerly a member of the American Medical Association; died at his home in Zanesville, Ind., January 10, from cerebral hemorrhage, aged 52.

Percy William Shedd, M.D. New York Homeopathic Medical College, New York City, 1904; of New York City; died in a hotel in Newark, N. J., January 10, from the effects of an overdose of morphin, aged 41.

William Aloysius Oberle, M.D. Baltimore Medical College, 1906; of Newark, N. J.; died in St. James Hospital in that city, January 5, from septicemia, contracted in performing a surgical operation, aged 28.

A. K. Kinne (license, Vermont, 1888); a member of the Vermont State Medical Society; for thirty years a practitioner; died at his home in Middletown Springs, January 7, from pneumonia, aged 73.

Theodore F. Fienup, M.D. St. Louis University School of Medicine, 1904; a member of the American Medical Association; died at his home in St. Louis, December 31, from pneumonia, aged 39.

R. Burdett Hoyt, M.D. Albany (N. Y.) Medical College, 1903; a member of the Medical Society of the State of New York; died at his home in Schenectady, January 11, from pneumonia, aged 29.

Samuel B. Junkin (license, Indiana, 1897); for nearly half a century a practitioner of North Webster; surgeon of volunteers during the Civil War; died at his home in that place, January 10, aged 82.

Charles Alfred Greene, M.D. University of Buffalo, N. Y., 1873; a member of the American Medical Association; died at his home in Windom, Minn., November 10, from heart disease, aged 65.

Louis H. Stoeffhaas, M.D. Rush Medical College, 1899; of Chicago; a member of the American Medical Association; died in St. Anthony's Hospital, Chicago, July 7, from endocarditis, aged 33.

David R. B. Greenlee, M.D. University of Pennsylvania, 1852; a member of the Arkansas Medical Society; a Confederate veteran; died at his home in Mayflower, January 1, aged 81.

Charles R. Watkins (registration, Texas, 1907, Twenty-Fifth Judicial District Board, 1894); died suddenly at his home in Floresville, December 31, from cerebral hemorrhage, aged 51.

James Oscar Breech, M.D. Barnes Medical College, St. Louis, 1906; assistant to the chair of gynecology in his alma mater; died at his home in St. Louis, December 30, from nephritis, aged 50.

Joseph Camille Gariepy, M.D. Laval University, Quebec, 1890; a member of the Fitchburg (Mass.) Medical Club; died at his home in Fitchburg, December 26, from heart disease, aged 45.

Nelson Ingram, M.D. Bellevue Hospital Medical College, 1865; surgeon in the navy during the Civil War; died at his home in Atlantic City, N. J., January 5, from acute gastritis, aged 67.

William Edward Curd, M.D. University of Nashville, Tenn., 1900; a member of the American Medical Association; died at his home in Copan, Okla., January 11, from typhoid fever, aged 37.

Daniel Buttrick Woodward, M.D. Harvard Medical School, 1865; a member of the Medical Society of the State of New York; died at his home in Ellenburg Corners, recently, aged 75.

William Sloan Creveling, M.D. New York University, New York City, 1851; a life member of the Medical Society of New Jersey; died at his home in Valley, January 1, aged 81.

Allison O. Douglass, M.D. Long Island College Hospital, 1876; a member of the American Medical Association; died at his home in Rome, N. Y., January 11, from pneumonia.

Robert L. Wood, M.D. University of Louisville, Ky., 1846; one of the oldest residents of Leavenworth, Kan.; died at his home in that city, January 1, from senile debility, aged 89.

William Jerome Doyle, M.D. Vanderbilt University and University of Nashville (Tenn.), 1892; died at his home in Greeley, Neb., December 26, from heart disease, aged 51.

William T. Grissom, M.D. University of Tennessee, Nashville, 1878; a member of the Kentucky State Medical Association; died at his home in Bliss, January 1, aged 57.

George Armstrong Hill, M.D. Jefferson Medical College, 1870; a member of the Medical Association of the State of Alabama; died at his home near Sylacauga, January 4, aged 61.

John Clark Spinks, M.D. Tulane University of Louisiana, New Orleans, 1857; died at his home in Shubuta, Miss., December 24, from cerebral hemorrhage, aged 79.

William Clark Griffith, M.D. Jefferson Medical College, 1888; of Mystic, Ia.; died in St. Joseph's Mercy Hospital, Centerville, Ia., January 9, from exposure, aged 67.

S. M. Lewis (license, Arkansas, 1903); for forty years a practitioner of the state; died at his home in Barren Fork, December 19, from pneumonia, aged 77.

Claiborne C. Stivers, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; died at his home in Horton, Kan., January 8, from pneumonia, aged 69.

Aneillio Preziosi, M.D. College of Physicians and Surgeons, Baltimore, 1909; died at his home in Stamford, Conn., May 23, from lobar pneumonia, aged 27.

Asa Brayton, M.D. Medical College of Ohio, Cincinnati, 1857; Bellevue Hospital Medical College, 1870; died at his home in Carey, O., January 11, aged 79.

James M. Kercheval, M.D. University of Pennsylvania, Philadelphia, 1858; died at his home in Nashville, Tenn., January 3, from influenza, aged 75.

Ernest Robertson McGregor, M.D. University of Georgia, Augusta, 1910; died at his home in Athens, Ga., December 19, from hemophilia, aged 32.

Newton Emmer Heath, M.D. Albany (N. Y.) Medical College, 1883; died at his home in Lee, Mass., January 7, from heart disease, aged 50.

Byron E. Webster (license, years of practice, Illinois, 1878); died at his home in Benton, December 13, from cerebral hemorrhage, aged 71.

William Edward Pole, M.D. Jefferson Medical College, 1900; died at his home in Philadelphia, August 29, from sarcoma of the liver, aged 42.

Hugh C. Discus, M.D. Physio-Medical Institute, Cincinnati, 1863; died at his home in Utica, O., January 8, from pneumonia, aged 76.

John Icilius King, M.D. Bellevue Hospital Medical College, 1873; died at his home in Burghill, O., January 3, from pneumonia, aged 62.

Thomas M. Carpenter (registration Greene County, Pa., 1884); died at his home in Deep Valley, Pa., August 28, aged 68.

J. P. Eichler, M.D. Germany; for sixty years a practitioner; died at his home in Fayetteville, O., September 19, aged 87.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE INCOMPATIBILITY OF ANTIPYRIN, CALOMEL AND SODIUM BICARBONATE

An inquiry has been received from a correspondent concerning the incompatibility (thought to be dangerous) of a mixture of antipyrin, calomel and sodium bicarbonate in the following prescription:

℞	Mild mercurous chlorid	2 grains
	Antipyrin	6 grains
	Sodium bicarbonate	q. s.

Mix and divide into 12 powders.

On account of lack of authoritative information on the subject the matter was referred to the Association laboratory, which made the following report:

"The literature contains little definite information concerning the incompatibility of a mixture of these substances.

"Holland[1] states that antipyrin is incompatible with many substances, among which calomel and sodium bicarbonate are mentioned, but nothing is said concerning its incompatibility with a mixture of the two salts. Another writer[2] reports that antipyrin is incompatible with the chlorids of mercury, while another[3] declares that 'antipyrin is almost universally incompatible.' It is frequently stated that antipyrin is incompatible with calomel, mercuric chlorid, mercurous oxid and metallic mercury being formed. This assertion, which is made by Werner[4], needs experimental confirmation. One writer[5] says that there is but little danger in dispensing calomel and antipyrin when the former is prescribed in small doses, as but a small part of the calomel (one-tenth or less) is converted into corrosive sublimate.

"As it seemed worth while to obtain some experimental data on the point involved, a mixture was prepared having the following composition:

Calomel	2 parts
Antipyrin	6 parts
Sodium bicarbonate	12 parts

"By qualitative tests it was demonstrated that when this mixture is treated with water a bluish-gray residue remains undissolved and a soluble mercury salt is found in solution. The composition of the insoluble residue was not determined, but there was considerable evidence that it is largely composed of metallic mercury and unchanged calomel. If the prescription powder be treated with an excess of 0.2 per cent. hydrochloric acid the reaction noted above does not occur; no mercury is found in solution and the calomel appears to be unchanged. If a mixture of calomel and antipyrin be suspended in water no reaction appears to take place at once. The calomel retains its natural color and no mercury salt is found in the solution. If to this aqueous solution of antipyrin containing suspended calomel some sodium bicarbonate be added the calomel immediately changes color and the mixture becomes of the same appearance as does the original mixture when treated with water.

"Preliminary determinations indicated that from one-sixth to one-fourth of the calomel present is converted into a soluble mercury salt. If the entire quantity prescribed be administered the patient would receive a soluble mercury salt equivalent to from 1/3 to 1/2 grain of corrosive sublimate.

"The incompatibility of the mixture will be apparent to any physician who will take the trouble to pour a few drams of water on a small portion of the powder; and that it is dangerously incompatible is shown by the large proportion of the mercury salt which is rendered soluble. If the mixture be administered in a capsule the danger would be lessened somewhat, as the acidity of the stomach would tend to neutralize the sodium bicarbonate, on the presence of which the reaction appears to depend. Since medical and pharmaceutical textbooks contain so little definite information concerning the incompatibility of this combination, too much blame should not be attached to those who have prescribed it and to pharmacists who have filled such prescriptions. However, if used at all, it should be in the most cautious dosage."

ONE DRUG JOURNAL'S ATTITUDE ON NOSTRUMS

A correspondent wrote from Hawaii to the *Druggists Circular* making the following request:

> "In the interest of a suffering public, we desire to obtain from you information as to the highest class and most efficacious cure for the disease of asthma, and the name of the firm or house who manufactures same, with the purpose of securing the sole agency of the remedy for sale in this Territory of Hawaii.
>
> "Also . . . an emmenagogue which has stood the test of clinical experience and recognized as the standard.
>
> "Trusting to receive this information at your hands at the earliest convenience, and thanking you in advance for humanitarianism . . . "

The *Druggists Circular's* reply is admirable and we give it in full; it needs no comment:

> "We are sorry to have to say that we are unable to supply the desired information, and the reason for our inability should suggest itself to any druggist who gives the matter serious thought for a few moments.
>
> "Asthma is a manifestation which frequently baffles the skill of the best physicians who are called on to treat patients suffering with it, and perhaps no two cases should be treated exactly alike, for not only the varying phases of the disease itself, but the idiosyncrasies of the patient must be taken into consideration if the best effect is to be obtained. If, then, a competent physician, who is familiar with the case and sees the patient from time to time and uses his best judgment in varying the treatment as necessity arises, does not always get results which are satisfactory to all concerned how can it be possible for some nostrum manufacturer who has never seen the sufferer and knows nothing about the peculiarities of his case, to be able to prescribe a single remedy which will fit it and thousands of others partly like it and partly different?

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[1] Med. Chem., Ed. 2, 1908, p. 482.
[2] Stark: Am. Pharm. Assn. Proc., 1893, xli, 566.
[3] Fantus: Prescription Writing, 1906, p. 219.
[4] Pharm. Ztg., 1896, xli, 395.
[5] Critic and Guide, 1910, xiii, 117.

"The same question might be asked with at least as much if not even greater propriety concerning the other remedy requested and the complaint for which it is to be used.

"'In the interest of a suffering public'—which has already suffered too long at the hands of nostrum manufacturers whose principal asset is public ignorance—we suggest that druggists use their influence to send sufferers from asthma and other ills to those who are legally authorized and presumably professionally equipped to diagnose their cases and prescribe remedies for their relief. The man who undertakes to diagnose and prescribe when he has not completed a course of study which entitles him to legal recognition as an expert in the practice of medicine, thereby becomes a quack and may justly be regarded as a faker; and his status is not changed by his surroundings, no matter whether they be the luxurious fittings of a suite of offices in a large manufacturing establishment, rows of bottles over a prescription counter, or the gaudy trappings of a mountebank's cart at a county fair."

Correspondence

Bacteriologic vs. Clinical Control of Diphtheria Quarantine

To the Editor:—Dr. Simonds in his article on diphtheria (The Journal, Jan. 7, 1910, p. 37) *said:* "It is evidently unjust to . . . the patient . . . to place him in quarantine on a clinical diagnosis of diphtheria, which in over 40 per cent. of the cases is proved by bacteriologic examination to be incorrect."

It seems to me that this is assuming an infallibility for bacteriologists that is unwarranted. No careful and experienced physician would consider even half a dozen bacteriologic examinations as proof of error in a case diagnosed as diphtheria from clinical evidence such as the presence of a membrane and a rise of temperature. Negative evidence must always be uncertain, and, while a positive diagnosis based on bacteriologic examination should be taken as conclusive even where the clinical evidence is negative, it does not follow that the reverse is true. In other words, the presence of the characteristic membrane is quite as conclusive as a positive bacteriologic finding.

Thomas J. Turpin, Corpus Christi, Tex.
Health Officer Nueces County.

[The above was referred to Dr. Simonds, who writes:]

To the Editor:—It must be borne in mind that the statement quoted by Dr. Turpin referred solely to the regulation of quarantine in diphtheria. It was not intended to apply to the treatment of the disease. When the clinical symptoms are reasonably clear, the physician who administers antitoxin without waiting for a bacteriologic examination is to be commended. The harmlessness of antitoxin and the more favorable results obtained from early injections render its use on clinical grounds alone perfectly justifiable. But in the case of quarantine I insist that it is unjust to a patient, especially to an older child or adult, to confine him for an arbitrary period of time on clinical grounds alone when a bacteriologic examination is obtainable. It is just as unfair to the community to release such a patient merely because all symptoms of diphtheria have disappeared.

It is true that a small percentage of positive cases are negative on first culture—at the Boston City Laboratory something more than 6 per cent. This simply means that neither clinical nor bacteriologic examinations are absolutely infallible, but that the percentage of error in the latter, especially where single negative cultures *in suspicious cases* are followed by second cultures, is so small that we are justified in relying entirely on this method for the regulation of quarantine.

I cannot agree with Dr. Turpin that "the presence of a characteristic membrane is quite as conclusive as a positive bacteriologic findin" For the control of treatment such a
principle is very ut from the standpoint of public
health it is excee reasons: First, when the
people of a comm t a membrane is char-
acteristic of diph to convince them that
the patient may s fter the membrane
has disappeared. S use to believe that a perfectly healthy person may be a carrier of virulent diphtheria bacilli and thus be a menace to his associates. It is from patients released too early and from healthy carriers that the disease is kept alive in a community.

To sum up the whole matter, the control of treatment by clinical manifestations is entirely justifiable; but the regulation of quarantine should be based solely on the results of bacteriologic examinations, when such are obtainable. Every suspicious case should be held in temporary quarantine until the result of the bacteriologic examination is known. Such a method, while not absolutely infallible, is far more accurate than clinical observation; it will certainly insure better protection to the community.

J. P. Simonds, *Indianapolis.*

Gonorrhea and Ophthalmia Neonatorum

To the Editor:—I am in receipt of a circular letter from the Ohio State Board of Health and the Ohio Commission for the Prevention of Blindness, stating that more than one-fourth and nearly one-third of all blindness of infants in Ohio is due to ophthalmia neonatorum, urging the necessity of preventive treatment of the new-born and also announcing the free distribution of silver nitrate solutions to physicians and midwives. While this is a laudable effort and one to which we should all lend a helping hand, we must go a step farther, it seems to me, if we wish to strike at the root of this evil. For every child born with this disease there is a mother who is infected with gonorrhea. For nearly every mother so infected there is a father who married with an uncured case of gonorrhea. While it may be true that in many instances the man has made no effort to obtain a cure, or what is worse, has been self-treated or treated by a druggist, it is equally true that in the majority of cases he has been treated and discharged as cured by a practicing physician. It is high time to call a halt and to ask that the treatment of this disease be given the same serious consideration as is granted to other much less serious and far less disastrous diseases. The presence or absence of a visible discharge seems to be the only determining factor that is used by the majority of men in diagnosing the presence or absence of gonorrhea. This is utterly fallacious. In the same category may be placed a single determination of the presence or absence of the gonococcus in the discharge. Of course the use of such means leads to the discharge from treatment of thousands of men who are still suffering from the disease and who will, in the majority of instances, infect their innocent partners. Instances of this kind have come to the notice of every practicing physician in this country. The following item, clipped from a Cleveland daily paper, illustrates the frequency of such cases:

> TO PROSECUTE MIDWIFE—SOCIETY CHARGES THAT WOMAN NEGLECTED BABY'S EYES
>
> A warrant was yesterday issued from the police prosecutor's office for the arrest of Mrs. Rose Natrefa, charging her with failing to report soreness of a child's eyes. Mrs. Natrefa, who is a licensed midwife, lives at 2253 East Eighty-Third Street.
>
> Officers of the Society for the Promotion of the Interests of the Blind found Luretta Sovenski, 3 days old, 7610 Stanton Court, S.-E., infected with what physicians say is an extremely virulent case of sore eyes. The baby was at once removed to Lakeside Hospital, where the physicians say there is only a slight chance of preserving its sight. The midwife, officers who made the investigation say, told the mother of the child that the case was nothing more than a cold in the baby's eyes.

I have not touched on the morbidity in the patient himself, which, as we all know, is of alarming frequency, and, in the case of women especially, is attended with such dire results. Let me repeat, the time has come for intelligent, serious and persistent treatment of gonorrhea to prevent the consequences of present-day methods.

Dr. W. E. Sampliner, Cleveland.

Action of One Society on the Secret Commission Evil

To the Editor:—The subject of fee-splitting and commission-giving by surgeons has come up in the Western Surgical Association, and the society has taken some definite steps to eliminate the practice. Dr. John P. Lord, in his presidential address, read a paper on this subject. The executive council eliminated a number of applicants for membership from the list of those eligible to election, because of authentic knowledge of such practice on their part.

The executive council went a step further than this, however, and considered the question in connection with some of those who are already members of the association. A number of members were dropped in order to increase the efficiency of the society. They were stricken from the list for various reasons; a few of them for the practice of fee-splitting and commission-giving.

A. T. MANN, Secretary, Minneapolis.

Transmission of Bubonic Plague

To the Editor:—In THE JOURNAL (December 24, 1910, p. 2258), in an abstract of a report on bubonic plague in California by an officer of the United States Public Health and Marine-Hospital Service, occurs the following:

> The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings, but by its bite infects the rat, which in turn, acting as a germ-carrier, bites and infects a human being, who in due course comes down with bubonic plague.

The latter presumably then bites his fellow-men and thus passes the disease along, and this would argue the necessity for muzzling every person afflicted with plague! But, seriously, what has become of the rat-flea which recently figured so largely as an indispensable factor or link in the spread of this disease? And an answer to this question is required by what follows the above quotation, namely, "as all that is necessary to start a season of bubonic plague anywhere is an infected ground-squirrel or human being."

Is this orthodox teaching concerning the science of sanitation as applying to bubonic plague, or is it merely an instance of misquoting or bad reporting? For, if the latter, it is too serious to pass uncorrected.

GEORGE HOMAN, St. Louis.

[COMMENT:—The error was due to a mistake of the reporter. The sentence should read: "The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings. Squirrel-fleas transmit the plague germs to rats, and rat-fleas in turn bite and infect human beings."—ED.)

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ACUTE THYROIDITIS

To the Editor:—I was very much interested in the report in THE JOURNAL (Nov. 12, 1910, p. 1732) of a case of acute thyroiditis, because of having encountered, a few years ago, my first and, so far, my only patient suffering from this condition, and because of the apparent rarity of the condition, the suddenness of onset, the difficulty of determining the etiology, at least in my patient. I cannot see valid reasons for attributing the thyroiditis, in the case of Drs. Lewis and O'Neill, to the infection of their patient from the horses suffering from epizootic. While it could no[illegible] ot but feel that it is possibly a coincidence, [illegible] he rapid and complete recovery. My patient [illegible] a few weeks later, which, I understand, may be expected in these cases. I did not see him in the second attack, which was mild, giving him but little trouble, he said.

Another thing which has impressed me is the slight mention of the condition in the literature, many of the text-books not referring to it at all. I am quite sure that the well-developed case of much severity, confronting for the first time the young practitioner who perhaps has never heard of the condition or has forgotten it, will occasion some serious and anxious thought on his part.

A German farmer, of good habits, aged 65, had been in his usual good health, doing no hard work, although still a very active man. On Aug. 9, 1904, he had gone to the elevator, some five or six miles from his home, and was returning shortly before noon in an open lumber wagon. When nearing home he suddenly noticed a sensation of pressure in the throat, increasing to choking, with dyspnea and dysphagia. Putting his hand to his neck, he found an immense tumor. He managed to get home and was brought immediately to my office. These symptoms came on very rapidly, reaching their acme, he says, in less than an hour. I saw him within two or two and a half hours of the onset.

The patient was somewhat nervous and excited, cyanotic, hoarse and suffering great difficulty in speaking, with great dyspnea and dysphagia. The thyroid gland was immensely enlarged, distended and distinctly outlined, the overlying skin flushed. He was put to bed and morphin and cathartics administered and an ice-bag applied over the thyroid gland. The condition began to improve in a few hours and passed off in two or three days, with no trouble since, except as stated above. This patient has developed in the meantime cardiac symptoms, that is, within the last two or three years, apparently due to myocarditis.

I have talked with a friend in St. Louis who has encountered three or four cases of acute thyroiditis in his practice. One of the patients died in an attack; I think, a second attack.

I should like to hear from others and to have references to literature on this condition.

G. L. ARMSTRONG, M.D., Taylorville, Ill.

ANSWER.—Our correspondent reports a very interesting case, although perhaps some doubt may be thrown on the diagnosis of thyroiditis, inasmuch as swelling occurring so suddenly would suggest hemorrhage or some other cause than inflammation. Little is given in text-books on this subject and literature is scanty. The following are some of the principal articles on acute non-suppurative thyroiditis:

Kyle, D. B.: Simple Acute Thyroiditis with Report of Two Cases, *Ann Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Illoway, H.: Case of Acute Thyroiditis of Rheumatic Origin, *Ann. Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Secord, E. R.: A Case of Acute Thyroiditis, *Canada Lancet*, February, 1903.

Garbini, G.: Acute Thyroiditis, *Arch. ital. di otol.*, 1903, xiv, No. 1.

Quervain, F. de: Acute, Non-Suppurative Thyroiditis, *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1905, xiii, Supplement; *Semaine méd.*, 1905, xxv, No. 44; abstr. in THE JOURNAL, Dec. 2, 1905, p. 1765.

Lublinski: Acute Iodin Intoxication and Acute Inflammation of the Thyroid, *Deutsch. med. Wchnschr.*, 1906, xxxii, No. 8; abstr. in THE JOURNAL, April 14, 1906, p. 1147.

Lamb, S. D.: Case of Acute Thyroiditis, *Washington Med. Ann.*, 1907-08, vi, 243.

Dunger, R.: Acute Non-Suppurating Thyroiditis, *München. med. Wchnschr.*, Sept. 8, 1908; abstr. in THE JOURNAL, Oct. 17, 1908, p. 1381.

Schwerin, H.: Acute Non-Suppurative Thyroiditis, *München. med. Wchnschr.*, Oct. 13, 1908; abstr. in THE JOURNAL, Nov. 21, 1908, p. 1826.

Lecène, P., and Metzger: Acute Thyroiditis in Puerperal Infection, *Ann. de Gynéc. et d'Obst.*, February, 1910; abstr. in THE JOURNAL, April 2, 1910, p. 1174.

Parisot, J.: Acute Thyroiditis and Cardiovascular Complications, *Presse méd.*, May 7, 1910; abstr. in THE JOURNAL, June 11, 1910, p. 2007.

Lewis, J. P., and O'Neill, B. J.: Acute Thyroiditis with Edema of the Glottis, THE JOURNAL, Nov. 12, 1910, p. 1732.

DOSE AND VALUE OF SALVARSAN AND OTHER ARSENIC COMPOUNDS

To the Editor:—Please answer the following questions:

1. What per cent. of arsenic does each of the following contain: arsenous acid; sodium arsenate; sodium cacodylate; salvarsan?
2. What is the maximum single dose, by mouth, of arsenous acid, sodium arsenate, sodium cacodylate?
3. What is the maximum single dose, hypodermically, of sodium cacodylate; salvarsan?
4. Would it not be possible to introduce into the system with sodium cacodylate as much arsenic as it is possible to do with salvarsan, and in as short a period of time and with as little or less danger to the patient? If so, what advantage has salvarsan over sodium cacodylate in the treatment of syphilis?

G. W. SHRIVER, Sistersville, W. Va.

ANSWER.—1. Arsenous acid (arsenic trioxid) contains 75.74 per cent. of arsenic; sodium arsenate (crystallized) contains 24.01 per cent. of arsenic; sodium cacodylate (crystallized) contains 35.64 per cent. of arsenic; salvarsan should contain 34.16 per cent. of arsenic.

2. The dose of arsenic trioxid is given as from 0.002 to 0.004 gm. (1/30 to 1/15 grain). It may be increased gradually as tolerated by the patient, and it is impossible to state the maximum dose that can be given, except that we know the fatal dose is as small as 2 grains, and probably 1 grain may be fatal in some patients. The compounds of arsenic acid, like sodium arsenate, are not so poisonous as those of arsenous acid, hence sodium arsenate can be given in larger doses. The dosage is stated to be 0.003 to 0.008 gm. (1/20 to 1/8 grain). The dose of sodium cacodylate is from 0.03 to 0.13 gm. (1/2 to 2 grains).

3. The maximum dose of sodium cacodylate, hypodermically, would appear to be 0.13 gm. (2 grains). According to the experiments of Dawes and Jackson (THE JOURNAL, June 22, 1907, page 2090), sodium cacodylate appears to have only a very slight toxic action. They found that 0.5 gm. did not kill a rabbit, while 0.8 gm. did. The toxic dose of salvarsan has been estimated to be 0.15 gm. per kilo, which would correspond to 10.5 gm. for a man weighing 70 kilo. The maximum dose of salvarsan may be put at 0.6 gm., although possibly more might be given without serious results. A dose above 0.6 would, however, be attended with risks.

4. This question cannot be answered positively at present. The important question is, rather, how much arsenic becomes available to the system without danger to the patient. In the case of sodium cacodylate at any rate, it is probably only the arsenic which is reduced to the inorganic form that is therapeutically active.

JOURNALS ON OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY

To the Editor:—Please inform me as to the best eye, ear, nose and throat journals for a specialist.

C. W. BANKES, Reading, Pa.

ANSWER.—The following are representative journals:

Annals of Ophthalmology, Mermod-Jaccard Bldg., St. Louis; quarterly; $4 a year; with *Annals of Otology, Rhinology and Laryngology*, $7 a year.

Annals of Otology, Rhinology and Laryngology, Mermod-Jaccard Bldg., St. Louis; quarterly; $4 a year.

Archives of Ophthalmology (Am. ed.), New Rochelle, N. Y., bimonthly, $5 a year.

Journal of Laryngology, Rhinology and Otology, Bartholomew Close, London, E. C., England; monthly; $5 a year, including postage.

Journal of Ophthalmology and Oto-Laryngology, 100 State St., Chicago; monthly; $2 a year.

Laryngoscope, 3858 Westminster Place, St. Louis; monthly; $3 a year.

Ophthalmic Record, 72 Madison St., Chicago; monthly; $40 a year.

Ophthalmology, 411 White Bldg., Seattle, Wash.; quarterly; $5 a year.

REQUEST FOR SPECIMENS FROM CASES OF HYPERTHYROIDISM

To the Editor:—I am anxious to obtain specimens of tissue from those dead of hyperthyroidism (exophthalmic goiter) with a view to securing more definite and accurate knowledge concerning the tissue changes induced by hyperthyroidism. Portions of heart muscle, liver, pancreas, kidneys, suprarenals and pituitary gland are especially desired. Tissue from patients dying without operative measures of any kind are preferred. I would greatly appreciate any such specimens sent me together with a concise statement of the case, and will gladly remit postage for their carriage. The fresh specimens should be covered with a proper preserving fluid and placed in a mailing-case, which I will supply on request.

JOHN D. SINGLEY, 812 North Highland Ave., Pittsburg, Pa.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 21, 1911.

Dade, Waller H., M.R.C., and Patterson, Edwin W., M.R.C., relieved from duty in the Philippines division and will proceed from Manila, P. I., about May 15, to San Francisco, for further orders.

Wilson, William H., major; Lewis, William F., major; Duncan, Louis C., captain; Brewer, Issac W., M.R.C., and Smith, Herbert H., M.R.C., relieved from duty in the Philippines division and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, for further orders.

Kirkpatrick, Thomas J., major; Coffin, Jacob M., captain, and Tuttle, Arnold D., lieutenant, relieved from duty in the Philippine division and will proceed from Manila, P. I., about Aug. 15, 1911, to San Francisco; for further orders.

The following named officers of the Medical Reserve Corps are relieved from duty at the stations designated after their names and will proceed at the proper time to San Francisco and take the transport to sail May 5, 1911, for duty in the Philippines division: Baker, Charles L., first lieutenant, presidio of San Francisco; McCown, Thomas B., first lieutenant, Fort Barrancas, Fla.

The following named officers are relieved from duty at the station after their names and will proceed at the proper time to San Francisco and take the transport to sail from that place about June 5, 1911, for duty in the Philippine division: Lynch, Charles, major, office of the [illegible] ts, William M., major, Fort Thomas, Ky.; [illegible] utenant, Company C., Hospital Corps, Walter [illegible] Takoma Park, D. C.; Austin, Thomas C., Company B, Hospital Corps, Army General Hospital, San Francisco; Wheate, J. Marshall, M.R.C., Fort Lincoln, N. Dak.; Mills, Frederick H., M.R.C., Fort Missoula, Mont.

The following named officers are relieved from duty at the stations after their names and will proceed at the proper time to San Francisco and take the transport to sail from that place about July 5, 1911, for duty in the Philippines division: Deshon, George D., major, Army and Navy General Hospital, Hot Springs, Ark.; Haverkamp, Charles W., lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo.; Reynolds, Royal, lieutenant, Company B, Hospital Corps, Army General Hospital, San Francisco; Bell, Leonard P., M.R.C., Fort Riley, Kan.

The following named officers are relieved from duty at the stations after their names and will proceed at the proper time to San Francisco and take the transport sailing from that place about August 5, for duty in the Philippines division: Stark, Alexander N., major, Fort Adams, R. I.; Wolfe, Edwin R., major, Medical Supply Depot, New York City; Gosman, George H. R., major, Fort Barrancas, Fla.; Cooper, Wibb E., lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo.; Brown, Polk D., M.R.C., Fort Sam Houston, Texas.

Carr, William B., lieutenant, left from temporary duty, Fort Myer, Va., on ten days' leave of absence.

Lamble, John S., Jr., lieutenant, relieved from duty as surgeon of the transport Sherman on arrival at San Francisco, about Sept. 12, 1911, and will then report to the adjutant general of the Army for further orders.

Schlanser, Adam E., lieutenant, relieved from duty with Company C, Hospital Corps, Walter Reed General Hospital, Takoma Park, D. C., and ordered to Fort Shafter, H. T., for duty on transport sailing from San Francisco about July 5, 1911.

Smith, William H., lieutenant, relieved from duty at Fort Shafter, H. T., and on arrival in Honolulu of the transport to sail from Manila about August 5 will proceed on that transport to San Francisco and report to the adjutant general of the Army for further orders.

Hayne, James A., M.R.C., on departure 3d Battalion, 2d Infantry, from Fort Assiniboine, Mont., will proceed to his home, and on arrival there will report by telegraph to the adjutant general of the Army. Lieutenant Hayne will stand relieved from further active duty in the Medical Reserve Corps, to take effect on his arrival at his home.

Deshon, George D., major, ordered to Washington, D. C., on April 3, 1911, for examination for promotion.

Kilbourne, E. D., captain, on arrival at San Francisco will proceed to Columbus Barracks, Ohio, for duty.

Morse, Charles F., captain, on arrival at San Francisco will proceed to the Army General Hospital, San Francisco, for duty.

Scott, George H., captain, on expiration of his present leave of absence will proceed to the Army General Hospital, Fort Bayard, N. Mex., for duty.

Clarke, Joseph T., major, relieved from duty at Fort Crook, Neb., and ordered to Vancouver Barracks, Wash., for duty.

Dale, Frederick A., major, relieved from duty at Fort Lincoln, N. Dak., and ordered to Fort Crook, Neb., for duty.

Brechemin, Louis, Jr., captain, relieved from duty at the Army General Hospital, San Francisco, and ordered to Fort Lincoln, N. Dak., for duty.

Rukke, Guy V., lieutenant, relieved from duty at the Army General Hospital, San Francisco, and ordered to Jefferson Barracks, Mo., for duty.

Bloombergh, H. D., captain, on arrival at San Francisco will proceed to Fort Yellowstone, Wyo., for duty.

Fife, James D., captain, granted two months' leave of absence.

Stone, Frank P., D.S., will proceed from Hobart, Okla., to the presidio of Monterey, Cal., for duty.

McCornack, C. C., lieutenant, left Vancouver Barracks, Wash., for duty at target range near Proebsted, Wash.

Clark, John A., captain, ordered to proceed to West Point, N. Y., for temporary duty.

Fauntleroy, P. C., major, relieved from duty at Fort Benjamin Harrison, Ind., May 1, 1911, and will proceed to New York City to familiarize himself with the methods pursued in the Medical Supply Depot in the purchase and inspection of supplies. He will proceed from New York June 1, 1911, to St. Louis and relieve Major Henry D. Snyder as medical supply officer in that city. Major Snyder after being relieved will proceed to New York City and assume charge of the Medical Supply Depot in that city, relieving Major Edwin P. Wolfe, Medical Corps.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 21, 1911.

Rennie, W. H., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to duty at the naval hospital, Bosto

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U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 18, 1911.

Cofer, L. E., assistant surgeon-general, directed to report to the chairman of board of medical examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of surgeon.

Wertenbaker, C. P., surgeon, reassigned for duty at Norfolk, Va., effective Dec. 26, 1910.

Young, C. B., surgeon, detailed to represent the service at the annual meeting of the Association of American Medical Colleges at Chicago, Feb. 27-28, 1911.

Cumming, Hugh S., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners for examination to determine his fitness for promotion to the grade of surgeon.

McMullen, John, P. A. surgeon, granted seven days' leave of absence from Jan. 13, 1911.

Foster, M. H., P. A. surgeon, granted fifteen days' leave of absence from Jan. 21, 1911.

Lumsden, L. L., P. A. surgeon, directed to return to Washington, D. C. via St. Paul, Minn., for conference with State Board of Health.

Schereschewsky, J. W., P. A. surgeon, directed to proceed to Washington, D. C., and report at bureau for conference.

Francis, Edward, P. A. surgeon, directed to proceed to New York and Otisville, N. Y., on special temporary duty.

Burkhalter, J. T., P. A. surgeon, leave of absence for one month from Dec. 17, 1910, amended to read twenty-eight days from Dec. 17, 1910.

Frost, M. H., P. A. surgeon, directed to proceed to Albany, N. Y., on special temporary duty.

Moncure, J. A., A. A. surgeon, granted ten days' extension of leave of absence from Jan. 1, 1911, on account of sickness; granted fifteen days' leave of absence from Jan. 11, 1911.

Schuster, B. L., A. A. surgeon, granted nine days' leave of absence from Jan. 11, 1911.

Board of medical officers convened to meet at the Bureau, Jan 23, 1911, for the examination of Assistant Surgeon-General L. E. Cofer and Passed Assistant-Surgeon Hugh S. Cumming, to determine their fitness for promotion to the grade of Surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General J. D. Long; Passed Assistant-Surgeon Joseph Goldberger, recorder.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

Kansas: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

Nebraska: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

New York: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Colorado October Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, Oct. 4-8, 1910. The number of subjects examined in was 8; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 16, of whom 15 passed and 1 failed. Twenty-nine candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine, (1910)*	(1910)	77.9, 80.6, 81, 82.9, 83.7, 84.4.
University of Colorado,	(1910)	77.4, 79.5, 85.5.
Rush Medical College	(1910)	85.4
University of Louisville	(1910)	78
Ohio-Miami Medical College	(1910)	88.7
Vanderbilt University	(1909)	83.9, 83.9

FAILED

College	Year Grad.	Per Cent.
St. Louis College of Physicians and Surgeons	(1906)	70.6

REGISTERED ON CREDENTIALS

College	Year Grad.	State Licenses
Rush Medical College (1894) Indiana;	(1895)	Iowa
Northwestern University Medical School	(1891)	Kansas
College of Phys. and Surgeons, Chicago (1893)	(1899)	Illinois
Central College of Phys and Sur., Indianapolis	(1905)	Indiana
University of Iowa, College of Medicine	(1890)	Iowa
University of Kansas	(1906)	Kansas
Louisville Medical College	(1885)	Kentucky
College of Physicians and Surgeons, Baltimore.	(1897)	W. Virginia
	(1900)	Penna.
Baltimore University (1896) Ohio;	(1903)	Penna
University of Missouri	(1908)	Missouri
St. Louis College of Physicians and Surgeons	(1891)	Missouri
Kansas City Medical College	(1897)	Kansas
Missouri Medical College	(1898)	Missouri
St. Louis University	(1905)	Illinois
University of Nebraska,	(1886)	Ohio
University of Nebraska,	(1907)	Nebraska
Columbia University, Col	(1870)	Illinois
[illegible]	(1890)	Ohio
[illegible]	(1884)	Kansas
[illegible]	(1907)	Ohio
[illegible]	(1888)	Ohio
[illegible]ge and Hospital, Phil.	(1897)	Penna.
[illegible]e, Philadelphia	(1908)	Penna.
[illegible]	(1892)	Tennessee
[illegible]	(1904)	Vermont

* No grade given.

Georgia October Report

Dr. I. H. Goss, secretary of the Regular Board of Medical Examiners of the State of Georgia, reports the written examination held at Atlanta, Oct. 11-12, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 80. The total number of candidates examined was 32, of whom 26 passed and 6 failed. Ten candidates were licensed through reciprocity and 1 under the exemption clause. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Birmingham Medical College (1908) 89;	(1910)	86
George Washington University	(1906)	99
Howard University, Washington, D. C. (1907) 81;	(1909)	83.5
[illegible]iana	(1910)	88, 89, 89.5
[illegible]	(1910)	85.5
[illegible]	(1910)	83
Leonard School of Medicine (1910) 81.5, 82.5, 83,		83
Columbia University, College of Phys. and Sur.	(1906)	91
Medical College of the State of South Carolina	(1910)	83
University of the South (1901) 87.5; (1906) 88;	(1908)	80
University of Nashville	(1910)	83.5
Meharry Medical College (1908) 83.5;	(1910)	82.5
Chattanooga Medical College	(1910)	84.5
Vanderbilt	(1910)	81
Gate City	(1903)	85
Marquette	(1919)	89.5

FAILED

College	Year Grad.	Per Cent.
Leonard School of Medicine (1905) 77;	(1910)	78
Meharry Medical College (1907) 75;	(1910)	72
Chattanooga Medical College	(1905)	74.5
Knoxville Medical College	(1908)	74.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville	(1876)	Kentucky
Johns Hopkins University	(1907)	Maryland
University of Pennsylvania	(1870)	Tennessee
Vanderbilt University	(1901)	Tennessee
Tennessee Medical College	(1904)	Tennessee
University of Nashville	(1909)	Tennessee
Meharry Medical College	(1902)	Iowa
Chattanooga Medical College	(1909)	Tennessee
University College of Medicine, Richmond	(1907)	Virginia
McGill University, Montreal	(1910)	Maine

LICENSED UNDER THE EXEMPTION CLAUSE

College	Year Grad.
Southern Medical College, Atlanta	(1889)

Florida November Report

Dr. J. D. Fernandez, secretary of the Florida Board of Medical Examiners, reports the written examination held at Palatka, Nov. 9-10, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 66, of whom 56 passed and 10 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama (1909) 75, 90;	(1910)	75, 75.1 81
Atlanta School of Medicine (1909) 81, 87;	(1910)	78, 84
Medical College of Georgia (1900) 83;	1906	75
Atlanta College of Physicians and Surgeons, (1909) 85;	(1910)	75, 75, 75, 75, 75, 80.6, 87.
Howard University, Washington, D. C.	(1910)	86.3
Rush Medical College	(1892)	84
Northwestern University Medical Coll. (1889) 83;	(1901)	96
Louisville National Medical College	(1910)	77
Tulane Univ. of Louisiana, (1909) 75;	(1910)	82, 85, 87, 91, 91
Medical School of Maine	(1897)	87
University of Maryland (1909) 87;	(1910)	87
Harvard Medical School	(1887)	80
University of Michigan, Dept. of Med. and Surg.	(1910)	82
Barnes Medical College	(1910)	75
Missouri Medical College	(1897)	78
University of Nebraska	(1903)	87
Albany Medical College	(1877)	91
Leonard School of Medicine	(1910)	79
Medico-Chirurgical College of Philadelphia	(1904)	85
University of Pennsylvania (1882) 88; (1902) 84;	(1910)	83
Memphis Hospital Medical College	(1910)	89
Vanderbilt University (1887) 80;	(1908)	81
Medical Coll. of the State of South Carolina, (1909) 75;	(1910)	81
Meharry Medical College, (1901) 75; (1908) 76.4;	1909)	80
University of Nashville (1909) 88;	(1910)	75
University College of Medicine, Richmond	(1909)	90
Medical College of Virginia, Richmond	(1908)	85

FAILED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1910)	65
Atlanta College of Physicians and Surgeons, (1905) 63; (1909) 56;	(1910)	56.1
Indiana Medical College	(1908)	64
Kentucky University	(1906)	68.6
Creighton Medical College	(1910)	60
Medical Coll. of the State of South Carolina, (1909) 65;	(1910)	52
University of Tennessee	(1909)	58.6

Nevada November Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, November 7-9, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 9, all of whom passed. Seven candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Med. College, San Francisco, (1904) 82.9;	(1910)	84.8, 87.8
Northwestern University Medical School	(1894)	78.9
Rush Medical College	(1893)	78.2
College of Physicians and Surgeons, Chicago	(1893)	83.2
Johns Hopkins University	(1908)	88.2
University of Würzburg, Germany	(1892)	89.4
University of Naples, Italy	(1893)	83.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1905)	Illinois
University of Maryland	(1895)	Maryland
University of Michigan (1890) Nebraska;	(1893)	Minnesota
Marion-Sims College of Medicine	(1902)	Illinois
Cincinnati College of Medicine and Surgery	(1884)	Michigan
Jefferson Medical College	(1894)	Nebraska

Book Notices

A Manual of Midwifery. For Students and Practitioners. By Henry Jellett, M.D., King's Professor of Midwifery in the School of Physic, Trinity College, Dublin. With the Assistance in Special Subjects of W. R. Dawson, M.D.; H. C. Drury, M.D.; T. G. Moorhead, M.D., and R. J. Rowlette, M.D. Second Edition. Cloth. Price, $6 net. Pp. 1210, with 557 illustrations. New York: William Wood & Co., 1910.

The improvements in this edition consist in important changes in the illustrations as well as in the text. A complete new set of drawings illustrates the chapter on obstetric anatomy and also the application of forceps, pubiotomy and Cesarean section, as well as the mechanism of labor. The anatomy and pathology of eclampsia, hyperemesis gravidarum, extra-uterine pregnancy, chorio-epithelioma and surgical fevers of childbed have been revised by Dr. Rowlette, pathologist to the Rotunda Hospital. New matter has been added and the text generally revised.

The book may be commended without hesitation as one of the best text-books on obstetrics in the English language. It is well arranged, complete, clearly written, up to date and well illustrated.

The chapters on obstetric anatomy, and especially those on the ovum and fetus, are concise but clear. One regrets only the absence of a method of determining and denoting the station of the fetus in its passage through the obstetric canal.

In the chapter on obstetric asepsis and antisepsis, the author is rather more dogmatic in denying the possibility of auto-infection than is justified. The rules for the prevention of sepsis are very good, but the statement is somewhat surprising that for a douche "in private practice it is seldom possible to obtain sterilized water, and consequently we must use the next best substitute, which will be furnished by water to which an antiseptic has been added." Why a vaginal douche should be given with the patient in the awkward lateral position is also difficult for an American to understand.

In the most excellent chapter on the physiology of labor we would dissent only from the author's preference for chloroform to ether in all degrees of anesthesia. Those who have used ether will not agree that it has any disadvantages compared with chloroform, while recent investigations show that chloroform may have remote toxic effect on the fetus or child as well as on the mother.

We are disappointed to find the important subject of exercise practically ignored in the discussion of the physiology of the puerperium and definite directions in regard to getting out of bed omitted. Considerable attention has been given in the last ten years in America and Germany to the importance of a proper management of the puerperium in order to obviate the results of imperfect involution of the uterus and ligaments and the abdominal wall, including the frequent occurrence of enteroptosis. This subject is well worth the attention of our English and Irish colleagues.

In the numerous important subjects of pathology of pregnancy, labor and the puerperium, the author gives clear pictures of the pathologic conditions and describes his own and other methods of treatment, with satisfactory definitions. It is not possible to describe, in the short limits of a review, the views of the author on even the most important subjects as for example, placenta prævia, accidental hemorrhage, etc. In general, it may be said that the reader will follow the clear presentation of the subjects with much interest and find the methods of treatment safe and in accordance with the present state of obstetric science.

A Practical Guide to the Newer Remedies. By J. M. Fortescue-Brickdale, M.D., Physician to Clifton College. Cloth. Price, $2 net. Pp. 273. New York: William Wood & Co., 1910.

The author makes a comparison and an estimate in the light of experience of the merits of the newer remedies; classifies the remedies discussed on the principle that they have been introduced as substitutes for already well-known remedies, in order to overcome the obvious disadvantages of some of these. With few exceptions, the numerous synthetic remedies introduced in the last few decades have not embodied any new therapeutic actions, but have merely presented the essential principles of the older remedies in a new form. In some cases the advantage has been illusory, since the new combination has only the effects of a mixture and its advantages could have been secured by administering the individual ingredients of the new compound.

These facts are set forth by the author, and he takes pains to point out in several cases that the synthetics possess no real advantage over the simpler and older remedies. Thus the various substitutes for the iodids are described in some detail; the author points out that many of these substitutes contain only a small amount of iodin and hence cannot be used to secure a powerful and rapid effect, so that "unless intolerance is well marked, there does not seem to be any reason for adopting a method of administration, the object of which is, in fact, to obtain a minimal dosage." He does not, however, agree with Ehrenmeyer and Stein that the organic iodin compounds possess no advantage at all.

Still less credit is given to the bromid substitutes, as the author says: "None of these preparations present any real advantage over the alkaline bromids; any tendency to irritate the stomach in the latter can always be met by prescribing a sufficiency of water." The arsenic, sulphur, phosphorus and iron compounds are critically considered and the advantages of some of the newer preparations admitted. The inefficacy of intestinal antiseptics as a class and of the uric acid solvents is emphasized. Throughout the book the reader is impressed with the occasional grain of wheat which is to be secured from the winnowing of much chaff, and the [illegible] of conservatism is clearly shown. This shifting of the claims of manufacturers, often too optimistic, is a difficult task which seems to have been satisfactorily performed. The book is free from technicalities and no time is wasted in useless description. These very desirable qualities recommend the work to the favorable consideration of every student and practitioner of medicine.

Disease of the Pancreas. Its Cause and Nature. By Eugene L. Opie, Professor of Pathology, Washington University, St. Louis. Second Edition. Cloth. Price, $3. Pp. 387, with 47 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Since the first edition of this book appeared in 1903, extensive studies of the pancreas have cleared up many of the moot questions concerning this important organ. Many points in the histology, and even the anatomy, have been made clearer, and the secretions, both internal and external, are better understood, as well as many of the pathologic conditions which affect this organ, notably hemorrhagic and other forms of pancreatitis; the formation of cysts; tuberculosis and syphilis; the relation of the pancreas to carbohydrate metabolism and diabetes mellitus, as well as the relation of the hepatic function and the gall-ducts to pancreatic disease. All of this is reflected in this new edition. This greater knowledge has brought the pancreas more within the domain of the surgeon, and the organ is now much more frequently attacked surgically. The author still adheres to his theory that the essential lesions in diabetes mellitus is in the islands of Langerhans. He feels that this point has now been established, both by his own experiments and by the work of others, which he cites, the disease occurring when this portion of the organ is affected, just as though the whole organ were extirpated. The author is not dogmatic on this point, but gives the evidence on both sides. He draws freely from the literature concerning the pancreas, giving a bibliography that very well covers the whole field. The book is well illustrated. The work is authoritative, and an extremely interesting one on a subject in which great progress has been made, but which is not yet entirely cleared up.

Die Wassermann'sche Reaktion. Mit besonderer Berücksichtigung ihrer klin[illegible] Von Dr. Harald Boas, Privatdozent an der [illegible] n Vorwort von Prof. A. Wassermann. Paper. [illegible], Pp. 186. Berlin: S. Karger, 1911.

In his preface, Professor Wassermann emphasizes the fact that the results given by Boas correspond very closely with the results obtained by himself. The technical reliability of the results published by Boas would seem to be well established and the conclusions drawn on the basis of the results thus obtained consequently acquire great force. The conviction arises, as one looks over these results, that at the present time repeated Wassermann tests are necessary in order to determine whether the patient really is cured or whether he simply has passed into a stage of latency, and that persistent positive reactions indicate the presence of spirochetes. If full advantage is taken of the test, large numbers of cases of latent syphilis should be discovered and the patients probably cured; the great benefit thus obtainable is easily understood when we call to mind the number of women who know nothing of their syphilitic infection, the importance of protecting nurslings against the effects of hereditary syphilis, and against infection by wet-nurses, etc. The Danish government has recognized these highly important practical aspects of the Wassermann test and there has been organized a complete serodiagnostic service for physicians in the State Serum Institute at Copenhagen. The book is to be highly recommended.

FOOD AND FEEDING IN HEALTH AND DISEASE. A Manual of Practical Dietetics. By Chalmers Watson, M.D., Assistant Physician, Royal Infirmary, Edinburgh. Cloth. Price, 10 shillings 6 pence. Pp. 638, with illustrations. New York: William Wood & Co., 1910.

The fine summary of the general principles of nutrition and of the physiology of digestion, absorption and metabolism that appears in the initial chapters of this book is to be unreservedly commended. The author has not adopted the modern classification of foods, but retains the old classification—"animal and vegetable" foods. Because of this there is no symmetrical harmony between his food-classes and food-uses. The work is thoroughly abreast of the latest and best investigations in its presentation of the physiologic effects of alcohol on the animal body, as well as the therapeutic uses of that substance.

The detailed and just treatment of the matter of patent, proprietary and predigested foods will appeal to the practitioner and will be valuable to him for reference. Especially valuable will the practitioner find the chapter on "Diet at Different Periods of Life" (childhood, school age, old age, pregnancy). The chapters on infant-feeding are excellent. While there is nothing noteworthy in that part of the work devoted to diet in disease, it is up to date and reliable. The republication in the appendix of reports of the author's researches on meat diet is a novel feature in such a book and adds much to its value.

GEHIRN UND RÜCKENMARK. Leitfaden für das Studium der Morphologie und des Faserverlaufs. Von Dr. med. Emil Villiger, Privatdozent für Neurologie und Neuropathologie an der Universität Basel. Second Edition. Cloth. Price, 12.80 marks. Pp. 278, with 224 illustrations. Leipzig: Wilhelm Engelmann, 1910.

This work gives in a brief yet fairly detailed form the information and illustrations generally divided between an atlas and a text-book on the anatomy of the brain and cord. Part I is devoted to morphology, or rather topographic anatomy; Part II to the course of the different fiber tracts. Most of the illustrations are schematic and clear; at the end of the book there are forty-nine full-page reproductions of sections through the brain-stem, at suitable intervals, from the genu of the callosum to the caudal end of the bulb. Only the normal brain and cord are considered, not the peripheral nerves or pathologic conditions. The clear text, everywhere illustrated by schematic drawings, will recommend the book to the student or physician looking for elementary information, and the anatomist or neuropathologist will secure the work on account of the serial sections mentioned.

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY. By Dr. Johann Fein, Privatdocent at the University of Vienna. Translated by J. Bowring Horgan, M.B., Late House Surgeon at the Hospital for Diseases of the Throat, Golden Square, London, W. Cloth. Price, $1.50. Pp. 223, with 42 illustrations. New York: Rebman Co., 1910.

In this brief work the author, without attempting to make either a text-book or a work of reference, has drawn from his large experience as a clinician and teacher in his special line, and has given much useful information for the general practitioner in the affections of these special regions which come clearly within his province. He attempts to draw rather distinct lines between the diseases which the general practitioner may treat and those which belong to the specialist. Though there may be differences of opinion as to the methods of handling the various troubles, yet the principles laid down in the diagnosis and treatment are practical, and the book will be of very material assistance to the general practitioner. It is well illustrated, and the translation has been well done.

ANDREAS VESALIUS, THE REFORMER OF ANATOMY. By James Moores Ball, M.D. Paper. Price, $5. Pp. 149, with illustrations. St. Louis: Medical Science Press, 1910.

This work, evidently the result of much painstaking and industrious study, contains an account of the life and works of Vesalius himself, and a survey of medical science up to his time, with brief sketches of earlier and contemporary anatomists. The book is typographically attractive, and is illustrated with excellent reproductions of curious and interesting old engravings. It is doubtless through inadvertence rather than error that the author refers to the Emperor Charles V as the "Spanish emperor," and as "Charles V of Spain." Charles was German in disposition, education and appearance and only half a Spaniard by descent, while as sovereign of Spain, of course, he was Charles I, not Charles V.

THE MICROSCOPICAL EXAMINATION OF FOODS AND DRUGS. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs, in the Entire, Crushed and Powdered States. By Henry G. Greenish, F.I.C., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain. Second Edition. Cloth. Price, $3 net. Pp. 386, with 209 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This, the second edition of this well-known and popular text, is the same as the first, with the exception of the addition of a chapter on the more commonly occurring adulterants of powdered foods and drugs, and the addition of descriptions of saffron, almond and fennel fruit, licorice and calumba. This edition is supplemented by a brief general scheme of examination, which should prove a desirable addition. The work is well illustrated.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A NEW PUBLIC HEALTH BILL IN CONGRESS

On January 5 Mr. Mann introduced the following bill in the House of Representatives. This bill is H. R. 30292. A similar bill has been introduced in the Senate by Senator Martin of Virginia as S. 9909:

A BILL: To change the name of the Public Health and Marine-Hospital Service to the Public Health Service, to increase the pay of officers of said service, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Public Health and Marine-Hospital Service of the United States shall hereafter be known and designated as the Public Health Service, and all laws pertaining to the Public Health and Marine-Hospital Service of the United States shall hereafter apply to the Public Health Service, and all regulations now in force, made in accordance with law for the Public Health and Marine-Hospital Service of the United States shall apply to and remain in force as regulations of and for the Public Health Service until changed or rescinded. The Public Health Service may study and investigate the diseases of man and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States, and it shall from time to time issue information in the form of bulletins and otherwise for the use of the public.

SEC. 2. That beginning with the first day of July next after the passage of this act the salaries of the commissioned medical officers of the Public Health Service shall be at the following rates per annum: surgeon-general, $6,000; assistant surgeon-general, $4,000; senior surgeon, of which there shall be ten in number, on active duty, $3,500; surgeon, $3,000; passed assistant surgeon, $2,400; assistant surgeon, $2,000; and the said officers, excepting the surgeon-general, shall receive an additional compensation of 10 per cent. of the annual salary as above set forth for each five years' service, but not to exceed in all 40 per cent.: Provided, That the total salary, including the longevity increase, shall not exceed the following rates: assistant surgeon-general, $5,000; senior surgeon, $4,500; surgeon, $4,000: Provided further, That there may be employed in the Public Health Service such help as may be provided for from time to time by Congress.

PUBLIC HEALTH EXHIBITS UNDER THE SUPERVISION OF THE AMERICAN MEDICAL ASSOCIATION

Frank B. Wynn, A.M., M.D.
INDIANAPOLIS

In the field of preventive medicine, no method of instructing the laity on hygienic and sanitary questions has proved more effective than well-conducted exhibits. For several years the Committee on Scientific Exhibit of the American Medical Association has sought in various ways to stimulate the development of model public health exhibits. Considerable study has been given to exhibits of this character, leading to the conclusion that as ordinarily devised and conducted they are open to the following objections:

1. They are cumbersome, heterogeneous and often unsystematic in arrangement.
2. Their initial cost is large; and the expense of installing, housing and supervision is great.
3. They are available only for cities.
4. The exhibition is spasmodic: they are shown for only a day or two in a community.

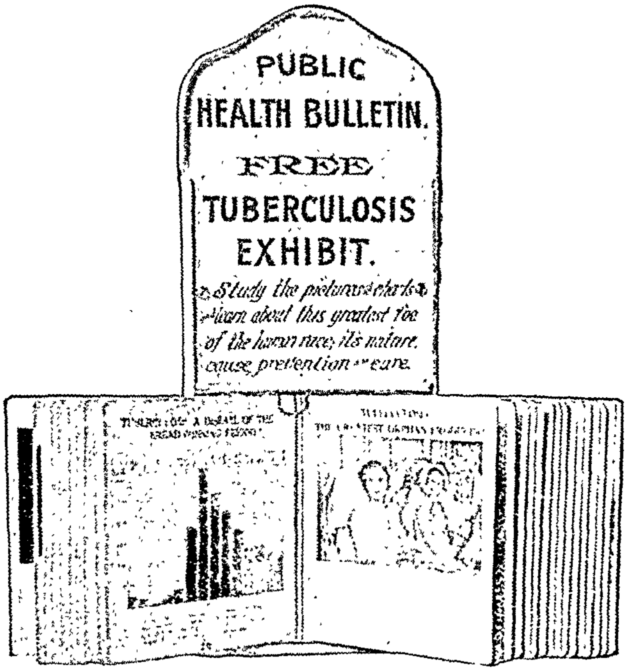
PUBLIC
HEALTH BULLETIN.
FREE
TUBERCULOSIS
EXHIBIT.
Study the pictures charts & learn about this greatest foe of the human race; its nature, cause, prevention and cure.

Fig. 1.—Public health exhibit for placing in postoffices and other public places.

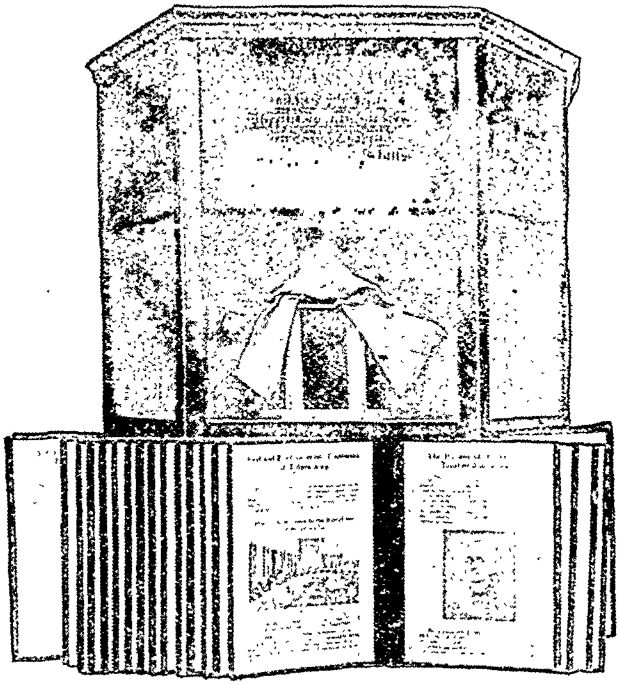

Fig. 2.—A public health bulletin, medium size.

PERMANENTLY INSTALLED PUBLIC HEALTH EXHIBITS

To overcome the above objections it has been sought to devise cheap, compact, and durable health exhibits for permanent installation in public places, such as railway stations, court-houses, post-offices, and the like, where people come and go. I have designed four models which were shown in the Scientific Exhibit at the St. Louis meeting.

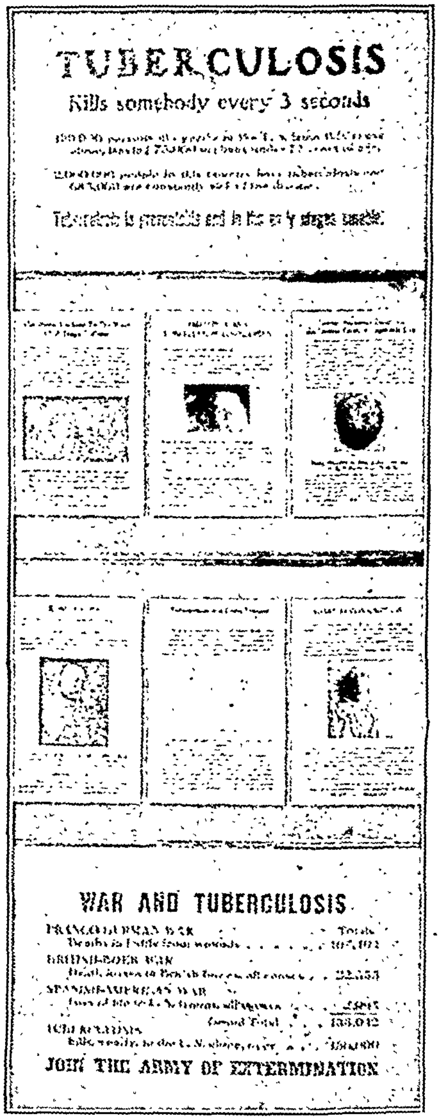
TUBERCULOSIS
Kills somebody every 3 seconds
WAR AND TUBERCULOSIS
Totals
Grand Total
133,012
JOIN THE ARMY OF EXTERMINATION

Fig. 3.—Portable, folding tuberculosis charts for use in lectures.

Model 1.—Small Wall Exhibit (Fig. 1).—Cost, $15. May be fastened to any wall. Material, galvanized iron and tin: enamel or gun-metal finish; printed matter varnished to make it durable and sanitary. Dimensions, 9 by 30 inches. Contains thirty removable, hinged leaves on which are mounted sixty pictures, charts, and data relating, in this particular cabinet, to tuberculosis. While tuberculosis is made the standing issue of public instruction, the "tuberculosis" sign at the top may be slid out and a "typhoid" sign introduced, substituting at the same time a group of leaves relating to the latter. In this way a local health officer may at any time inaugurate a campaign of instruction on a prevailing epidemic. Fifty of these small exhibits have been installed in public places about the city of Indianapolis, by the Department of Public Health.

These small exhibits are particularly well adapted for use in village railway stations or post-offices. Their small cost enables their purchase by clubs, medical societies, and health authorities. The price quoted might be still further reduced if they were made in large numbers.

Model 2.—Medium-Sized Wall Cabinet (Fig. 2).—Cost, $20. Material, same as foregoing. Dimensions 24 by 30 inches. Designed for larger railway stations, court-houses, etc. The leaves are arranged in three groups in order to permit simultaneous inspection by several persons. It is intended that the central group should be devoted to tuberculosis; the lateral ones to other sanitary and hygienic topics. Small compartments for models of shacks, etc.

Model 3.—Large Octagonal Cabinet.—Cost, $100. Mounted on a pedestal. Same materials as in the foregoing. Designed especially for large railway stations, or any public place where large numbers of people congregate. Contains models of shacks, sanitary cuspidors, etc. Removable hinged leaves on all sides.

Model 4.—Compact Portable Exhibit (Fig. 3).—Cost, $15. This consists of enameled metallic leaves 13 by 20 inches, which are hinged in groups of four or more, and may be dropped from a picture molding in a minute's time. These may be used in connection with oral presentations, or they may be permanently installed; especially adapted to hanging on the walls in school buildings. The tuberculosis set contains twenty-four leaves.

ADVANTAGES OF THE PLAN OF PUBLIC HEALTH EXHIBITS UNDER THE ASSOCIATION CONTROL

1. Compactness, neatness and stability: They take up but little room and may be placed with safety in any public building where crowds assemble.
2. Completeness: Although compact, they contain as much as the large exhibits—all that is necessary for the instruction of the public.
3. No supervision required. They tell their own story graphically.
4. Continuity of educational effort: The lessons of hygiene and sanitary science are taught day by day.
5. Exhibits do not arouse local jealousies and criticisms from the profession; nor is there risk of bungling public presentation.
6. Supervision of the data by the Association would insure sane and judicious instruction of the laity on public health problems.

PROBLEM OF PRODUCTION

In order to secure the widest possible educational effect from such exhibits, it is desirable that they be sold at the lowest possible figure, thus insuring general use. It lies within the power of the Association to develop cheap, compact and yet complete exhibits relating to all the problems of the public health, and this it undoubtedly will do. It would be possible in this way to standardize to a large extent public health methods throughout the country. The wise hand of the Association would guard against erratic efforts in the field of preventive medicine, and seek on every hand to cooperate with and aid existing forces working for the public health and comfort.

[A number of the tuberculosis exhibits have been made up by Clark and Roberts Co., 315 Holton Place, Indianapolis, Ind. Single cabinets (Model 1) will be furnished for $15.00, or in lots of one to four dozen at $12.00 each. Larger quantities at a reduction. These prices do not include freight or express charges. Orders may be sent direct to the maker or to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Avenue, Chicago. The purchase of these exhibits is strongly recommended to state and municipal boards of health, women's clubs, county medical societies and local health leagues.]

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Fourth Weekly Meeting

Surgical Shock

Physiology of Shock: Vascular shock, cardiac shock. Depression or inhibition. Relation of cardiac and vascular shock. Blood-pressure in shock. Effect of stimulation of depressor nerve-fibers. Effect of alkaline solutions on experimental shock.

Etiology of Shock: Sensory impulses in operation, hemorrhage, general anesthesia, extent and duration of operation, heat and cold, psychic influences. Predisposing conditions; anemia, alcoholism, diabetes, nephritis, local and general infections. Traumatism in production of shock.

Symptoms and Diagnosis of Shock: Pulse, blood-pressure, temperature, perspiration, pallor, respiration, reflexes Differentiate shock from collapse.

Treatment of Shock: Prophylactic: Effect of operative manipulations on organs and tissues; sensibility of different structures. Character and amount of anesthetic Preparation for anesthetic. Vaso-constrictors: Compression of abdomen and extremities, salt solution, epinephrin.

Monthly Meeting

Anesthesia—Surgical Shock

The Choice of an Anesthetic.
Indications and Contra-Indications for Chloroform and for Ether.
Local Anesthesia in General Surgery.
The Prevention and Treatment of Surgical Shock.

Medicolegal

One Trial for Illegally Practicing Medicine Not a Bar to Another

The Supreme Court of South Carolina, in State vs. Van Buren (68 S. E. R. 568), reverses a judgment sustaining a plea of former jeopardy and acquittal in a prosecution for practicing medicine without the license required by statute. It says that the first indictment, on which the defendant was tried and acquitted, charged that he practiced medicine, without a license, on October 10, and November 5, 1908, by prescribing for the physical ailment of another; while the second indictment charged that, on Oct. 28, 1908, he unlawfully practiced medicine by prescribing for and treating the physical ailments of Mary Crim. The statute contemplates that every violation of its provisions shall be a separate offense. The question was whether it appeared from the faces of the indictments that the offenses charged were the same, so that an acquittal under the first would be a bar to a trial under the second.

It will be observed that the charge in the first indictment was entirely indefinite, except as to the time. No person or place was mentioned, and no circumstances or particular description, except the dates of the alleged offenses. For this reason the time mentioned was a material part of the description of the offense, and it was necessary to prove the dates as alleged. The state, therefore, on the trial under that indictment, was limited in its proof to showing that the defendant practiced medicine without a license on October 10 and November 5, 1908. This being so, it seems perfectly clear that the defendant was never tried and was never acquitted of any charge except that of practicing medicine without a license on the days named. Whether he had practiced on other days in violation of the statute, not being a question in issue, could not have been decided.

The test laid down as useful and generally adequate, though not infallible, by which it may be decided whether two indictments charge the same offense, is: "Would the evidence necessary to support the second indictment have been sufficient to procure a legal conviction on the first?" Apply this test. Obviously evidence to support the second indictment, charging the practice of medicine without a license by prescribing for the physical ailments of Mary Crim on Oct. 28, 1908, could have been introduced which would have been entirely insufficient to produce conviction on the first indictment; for no evidence would have supported the first indictment except evidence of practicing medicine on the days therein named, while the evidence necessary to support the second indictment could have been of practicing medicine by prescribing for Mary Crim on other days than those to which the first indictment was confined. The circuit court, therefore, erred in laying down as a legal inference that the second indictment necessarily charged the same offense as the first.

On a trial on the second indictment no evidence of practicing medicine without a license on the days named in the first indictment would be admissible, because the defendant had been tried for those alleged offenses and acquitted; but he had not been tried for a like offense committed at any other time, and therefore the first trial and acquittal was ineffectual as a plea against the charge alleged in the second indictment to have been committed at a different time.

Private Tuberculosis Sanitariums As Nuisances—Unfounded Fears

The Supreme Court of Washington reverses, in the case of Everett and wife vs. Paschall (111 Pac. R. 879), a decision in which a lower court denied an injunction against the maintenance of a private tuberculosis sanitarium in a residence neighborhood. More particularly, the question, which is thus answered in the negative, was stated to be: "Can a tuberculosis hospital be maintained in a residential portion of a city, where its maintenance depreciates the value of contiguous property from 33½ to 50 per cent., and where its existence detracts from the comfortable use of such residential property?"

The lower court went on the principle that, the danger being only in the apprehension of it, a fear unfounded and unsustained by science, a demon of the imagination, the courts would take no account of it. But if dread of the disease and fear induced by the proximity of the sanitarium, in fact, disturbed the comfortable enjoyment of the property of the plaintiffs, the supreme court questions its right to say that the fear was unfounded or unreasonable, when it was shared by the whole public to such an extent that the property values were diminished. The question was, not whether the fear was founded in science, but whether it existed; not whether it was imaginary, but whether it was real, in that it affected the movements and conduct of men. Such fears are actual, and must be recognized by the courts as other emotions of the human mind. That fear is real in the sense indicated, and is the most essentially human of all emotions, there can be no doubt. The theories and dogmas of scientific men, though provable by scientific reference, cannot be held to be controlling unless shared by the people generally.

Besides, the lower court found that the bacilli of the disease might be carried by house flies. Thus every house fly that might drone a summer afternoon in the drawing room or nursery would be a constant reminder to the plaintiffs of their neighbor, tending to disquiet the mind and render the enjoyment of their homes uncomfortable.

The only case the court finds holding that fear alone will not support a decree in this class of cases is Anonymous, 3 Atk. 750, where Lord Hardwicke said: "And the fears of mankind, though they may be reasonable ones, will not create a nuisance." The Washington statute modifies, if indeed it was not designed to change, that rule. Under the facts, the supreme court cannot say that the dread which was the disquieting element upon which the plaintiffs' complaint was made to rest was unreal, imaginary or fanciful. In so doing, it is not violating the settled principles of the law, but affirming them.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CHICAGO GYNECOLOGICAL SOCIETY

Regular Meeting, held Dec. 16, 1910

The President, Dr G. A. Kolischer, in the Chair

Legal Aspects of Post-Mortem Cesarean Section

Dr. Charles S. Bacon: The law of Numa Pompilius, the lex regia, provided that no pregnant woman who died should be buried until her child had been removed from the uterus, if alive. In some countries, Austria, for example, and Germany, the lex regia is still in force. Post-mortem section is required after the sixth month, or after the child is viable. In some countries the decision is left with the physician. In this country there is no statute to cover this point, nor is there a decision on record. Most important is it to decide that the mother is dead, because the law requires that if she is unconscious, consent to operate must be obtained from the husband. A Cesarean section done under such circumstances without the consent of the husband or against his wishes would be actionable. Therefore, it is essential to establish that death has occurred. Next of importance is it to determine whether the fetus is alive or dead. This is by no means always an easy thing to do, because of the position of the fetus, the presence of hydramnion, and thick or edematous abdominal walls. If the heart tones were heard a few minutes before death, post-mortem auscultation may be omitted. That, I believe, may be accepted as a positive and imperative indication for the operation. If evidence of fetal life is lacking, we are still justified in hoping that it exists for a brief period post mortem. Numerous observations have shown that the fetus may live for from fifteen to twenty minutes after the death of the mother. The cause and manner of death of the mother doubtless has considerable bearing on the subject. In order that no chance of saving a life may be lost and to avoid hurting the feelings of relatives and friends, I think that we may safely adopt a limit of twenty-five minutes after death as the longest time that a fetus can live and the latest moment that a section is justifiable. It is hardly necessary to add that the fetal life should be sufficiently developed to give a chance for continued existence. A fetus that could have hope of living outside of the body of the mother more than a few hours cannot have a reasonable claim. Hence, the section should be made only when the pregnancy has advanced twenty-eight weeks. These two questions, whether the woman is really dead and whether the fetus is alive and viable, are all that need to be considered in establishing a rule of practice or a legal mandate.

As to the legal aspects of this question, I maintain that the operation is right for the following reasons: 1. The husband's right to determine whether an operation shall be performed on his wife ceases with her death. 2. The right of the husband to the custody and control of the body of his dead wife does not extend to preventing such disposal of it as may be necessary to keep it from injuring another human being. There is no property right in the dead body, and any action taken to save life cannot be classed as unlawful. The obligation to save the life of the fetus when it can be done without destroying or jeopardizing another life is absolute. Certain rights have been accorded to the fetus. The law, both statute and common, and its interpretation by the courts, is dependent on the sentiment of the community and registers in a general way the advance in knowledge and morals. This is well illustrated by the history of the laws concerning abortion. Certain civil rights of the infant "in ventre sa mère" have long been recognized, as, for example, in the right to obtain an injunction to "stay waste." More recently a number of cases have been decided in the highest courts in which the decision showed the existence of a tendency to a greater recognition of the legal rights of the fetus. That a viable fetus has the same right to live as any other human being is in accord with moral, social and scientific laws, and should become a legal proposition. This does not imply that it has greater rights than the mother. If she is endangered by it, she may protect herself, even to the extent of destroying it, just as anyone has the right to self-preservation, when attacked by an irrational person. This rule would require a post-mortem Cesarean section or in rare cases a post-mortem delivery operation through the natural passages in every case when the fetus of at least the twenty-eighth week of gestation is known to be living at the moment of the death of the mother. It would also probably require the physician to use his judgment when he could not positively determine that the fetus was living, with the understanding that after twenty-five minutes from the death of the mother no operation should be done.

DISCUSSION

MR. A. F. REICHMANN: From the earliest times in England it was the established law that there was no such thing as property right in the body of a dead person, and, as a necessary corollary, no liability could arise either civilly or criminally from the taking, handling, mistreatment or mutilation of a body. On the death of a person the disposition of his body became a matter for the public, and was in charge of public officials. The next of kin, or surviving husband or wife, had no claim which the law recognized. At the beginning the courts of this country were inclined to follow the doctrines and precedents laid down by the English courts. The common law of England and this country, however, is a matter of evolution. It is continually expanding with the progress of civilization and adapting itself to the changed conditions of society, business and public sentiment. The duty to give bodies burial and to pay the incidental expenses was imposed by law on the surviving husband or wife or the next of kin. It is now the settled law of this country that the possession of a dead body belongs to those most intimately connected with the deceased by domestic ties, for the purpose of decent burial, and that this right belongs primarily to the surviving husband or wife, and then to the next of kin. However, any unlawful mistreatment or mutilation of a corpse will give rise to an action for damages against the guilty person or persons and in favor of those who have a legal right to the possession of the body.

The question still remains, however, whether such an action will lie in case of the justifiable performance of a Cesarean section done without the consent or even against the protest of those who are entitled to the possession of the body. In my judgment, it does not by any means follow that such an action will lie. While the law now recognizes a legal right to the possession of a dead body, and gives a legal remedy for the violation of that legal right, the legal right is, after all, merely a relative and not an absolute one. Various elements and considerations may under proper circumstances materially affect and diminish this right or even totally supersede it. In the interest of public health, states and municipalities in the exercise of their police power have the right to regulate the places of burial, and to disinter human bodies and reinter them in other places without the consent and even against the protest of those in whom the primary legal right to their possession is vested. Legislatures and municipalities may prescribe regulations for burial and it has been held that the attending physician or a foreigner has the right to hold a post-mortem examination on a body if he cannot otherwise issue the certificate of death required by law.

As to the probable attitude of the law toward the preservation of human life through the instrumentality of a Cesarean section, we are told that it was decreed by the Romans that no pregnant woman should be buried until the fetus had been removed by a Cesarean section, and I understand that the Italian laws at one time, if indeed they do not now, required this intervention. The law and public policy look with favor, and in some instances actively and affirmatively encourage the marital relationship, and by its means the creation of human life and the upbuilding of the family. It is not likely, therefore, that the law will frown on any effort to promote its policy. The preservation of human life is of the greatest concern and solicitude of the law and public policy. Self-defense is a legal justification for the killing of another human being, and the law justifies the killing of another, not only to save the slayer's own life, but that of one intimately related to him. Therefore, it is not likely that the law will look with favor on one who, from considerations at best merely sentimental, despite the advice of men learned in medicine and surgery, would prefer to see a human life lost that might be saved, rather than permit the disturbance of an inanimate body. Suppose a woman far advanced in pregnancy within a short period of the delivery of her child, in good health, met with a sudden accident resulting in her death, but not in the death of her child. Her physician knows that the child is there and knows that it is about to be born. Would it be likely that the law would be a party in abetting the husband or next of kin in refusing a post-mortem section? If the surgeon performs the operation without the consent of the husband or the next of kin, or even in spite of their protests, it is very reasonable to believe that he will be protected by the law, providing he is acting within the limitations of demonstrable scientific knowledge with regard to these cases. To interfere under such circumstances would be murder. What moral or legal right have they to refuse consent? If the consent of the husband is unnecessary, and his refusal of no consequence in the eyes of the law, then *a priori* this must be so of the others. The mere fact that he is in part the author of the life in jeopardy gives him no superior right when the question of life and death is involved. The father has no property in his child. He has at most merely the right to its custody, and this to enable him to discharge toward his child certain active and affirmative duties imposed on him by law, for the violation of which penalties are imposed. He can be punished for its mistreatment and hanged the same as anyone else for causing its death. His custody of the child may be terminated by law when its well-being requires it. The child belongs to the state. Will it then be said, in the light of these considerations, that the father has the right by withholding his consent to cause the loss of a life which, after all, belongs not to him, but to the state and society, and in which his proprietary interest is so slight? I can only answer this most emphatically in the negative. Reviewing the entire situation, I cannot escape the conclusion that, given a case in which, in the light of existing scientific knowledge, the belief is reasonably justifiable that the infant may be rescued and its life saved, a Cesarean section will be justified by the law on grounds of public policy, and the person performing it will be fully protected both civilly and criminally though it is performed without the consent or even against the protest of those in whom the law has recognized a legal right to the possession of the body of the deceased, provided, of course, that the operation is performed in good faith and with due skill and without unnecessary injury.

DR. FRANK CARY: Some years ago, a woman was suffering from uremic convulsions and the question was whether or not an immediate delivery should be instituted. I was a consultant and urged an immediate delivery. In the meantime the woman died and I advised a Cesarean section. There was considerable argument as to the propriety of such an operation. Finally, the husband left the matter in my hands, I made the section and delivered a living child, demonstrating that that was the proper thing to do.

DR. ROBERT T. GILLMORE: In November, 1905, Dr. T. J. Watkins published a paper narrating a case of post-mortem Cesarean section done by him in 1904, following the death of the mother from eclampsia. The operation was performed five minutes after the death of the mother. The child was alive, is now well and strong, and, so far as I know, is the only living child in Chicago born by post-mortem Cesarean section.

DR. GEORGE SCHMAUCH: In Germany the physician is obliged to do a post-mortem Cesarean section. The law requires this, when there is a conviction that the child is alive. Several men have reported about four or five hundred cases all told with 20 or 25 per cent. of living children.

DR. CHARLES E. PADDOCK: I would perform that operation on any woman dying during labor or at term if the child is strong and viable.

DR. RUDOLPH W. HOLMES: I have twice done a post-mortem Cesarean section. In one case I knew the baby was dead. I believe that it is the physician's duty to do this operation even when he knows that the child is dead. I am convinced that the law would sustain him in this.

Dr. Gustav Kolischer: In all European countries the law prescribes that it is absolutely the duty of the attending physician to do a post-mortem Cesarean section. No time limit is set on the operation. The law assumes that the physician is competent to decide whether or not the mother is dead. The law also requires that after the operation is done the uterus and abdomen must be closed, because the woman might be alive. It is the intention of the law to protect the child in utero the same as it would a living child. If the husband prevents the physician from performing the section, he commits the same misdemeanor as if he failed to call in competent medical assistance when his child was ill.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

(Concluded from page 219)

Acute Suppurative Appendicitis

Dr. Willard Bartlett, St. Louis: I operate for this condition as follows: The abdomen is opened through a gridiron incision immediately over the dull area if one can be made out, otherwise at McBurney's point. It is very rarely the case that this incision has to be enlarged, which can be done though with slightly greater difficulty than is the case in ordinary through and through openings. Immediate search for the appendix is made. I always remove it if it can be found without unnecessary loss of time or disturbance of many adhesions. I do not often go so far as to turn out the head of the cecum in order to find the appendix, but consider this advisable where this carries with it the adherent viscera which completely surround a collection of pus, to be opened outside of the abdomen at the removal of the appendix. It is rarely my custom to do much or any so-called walling off with gauze in the search for the appendix. Harm is done by gauze packs, and ready access to the viscera is interfered with. While in clean work I make a peritoneal autoplasty when working on the appendix or any other viscus covered by peritoneum, in these pus cases I simply tie a strand of catgut around the base of it, including the mesenteriolum, and cut it off. Drainage is instituted in every case in which exudate is found, tying at its middle a strip of rubber dam or a ribbon cut from an old rubber glove in the catgut ligature on the base of the appendix. Drainage is further aided by placing the patient in bed on the face directly after the operation. In a few days the catgut ligature is absorbed and the drainage comes out of its own accord. Suture of the deeper layers of the abdominal wall is never attempted unless the muscle-splitting incision has been considerably enlarged. The drain practically fills the small dead space resulting from the spontaneous closure of such incisions, thus reestablishing intra-abdominal pressure sufficiently for our purpose. In the middle of the skin wound are placed one or two clips, at each side of which one-half of the rubber drain emerges, its two ends being fastened together by a clip which prevents the possibility of its being drawn into the abdomen. Thus one has practically coated the edges of an infected wound without any danger of pus retention in the depths or under the skin. After the two drains have been removed at the end of a week, the resulting defects in the skin are closed with adhesive plaster, and in two weeks after the operation most of these patients are out of bed with a solid abdominal wall and with the skin wound completely healed or almost so.

Intussusception in Adults

Dr. Ellsworth Eliot, New York City: Intussusception in adults is of more importance than previous study would indicate. The rarer causes are foreign bodies and parasites, the less rare, ulceration from diarrheal diseases, tuberculosis, fecal masses, etc. A more common cause is trauma, especially severe muscular effort. The most frequent cause is a tumor, especially the benign polyp, with constricted base. The clinical course varies from one most acute to the very chronic. Of the individual symptoms there is a great variety. Constipation is the rule, but normal stool or diarrhea may occur. Blood or mucus in the stools is less frequent and usually signifies a tumor. A tumor varying in size and shape, especially during the attacks of pain and changing its position along the course of the colon, is characteristic. The tumor appears first in the right lower quadrant, but should be looked for in the pelvis or in a position covered by the liver or spleen. Distention, general or focal, is variable. The course of the attack is usually very severe, especially in those cases with Meckel's diverticulum. In the protracted cases the natural processes may cause sloughing of the intussusceptum which is passed by rectum. Hope for such relief should not encourage conservative measures of treatment, for in usually less than eighteen months secondary obstruction occurs. I suggest, therefore, that after the acute symptoms have disappeared lateral anastomosis be done, connecting the bowel above with that below the affected portion. Treatment should in most cases be radical. With conservative measures complete reduction is never certain; recurrence is likely, and the initial manipulation lowers the resistance in subsequent operation. Reduction in the first twenty-four hours is accomplished by combined expression and contraction in from ten to fifteen minutes, reduction by either alone being dangerous. Recurrence is avoided by anchorage of the cecum to the abdominal wall, by plication of the mesentery or by long longitudinal endoplication of the cecum along the anterior longitudinal muscular band. Gangrenous intussusceptum and intussuscipiens demand resection followed by anastomosis or temporary enterostomy. A viable sheath may be split along longitudinally and through this the intussusceptum resected. Temporizing measures are enteroanastomosis and artificial anus. The procedure of choice is to reduce gently as far as possible and then resect. Complete reduction followed by resection is employed only where a tumor or the like is concerned.

Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum

Dr. Charles H. Mayo, Rochester, Minn.: The stomach suffers from many reflex conditions; only one patient in ten with gastric symptoms shows actual lesions. Many bowel conditions, as obstructions, appendiceal concretions, stimulate symptoms of ulcer. The development of the mid-intestine extends from below the common duct to and including the part of the transverse colon. Ten inches of the ileum is pelvic, was originally fixed to the cecum, and becomes detached at first, except for a lateral opening. When this fails to take place obstruction is more liable to occur. In extensive appendiceal operations in cases with obscure symptoms, Mr. Lane has noted an intestinal kink near the ileocecal valve. He believes this to cause obstruction, often non-inflammatory, and probably resulting from traction of the loaded cecum to the pelvis. The symptoms often simulate those of appendicitis, ulcer and various forms of constipation. We have seen many cases of this nature, both of inflammatory and non-inflammatory origin, and producing reflex symptoms. Therefore, with the present increased facilities for intestinal exploration, the 4 terminal inches of the ileum should be examined, when possible, in obscure cases of digestive disturbance.

Choice of Operation for Inguinal Hernia

Dr. Archibald MacLaren and Dr. Harry P. Ritchie, St. Paul: In 123 operations on 97 individuals no extraordinary measures, such as filigrees, flaps of the recti, were found necessary to obtain satisfactory repair. During the first decade, the operation without the most positive indications is often questioned. It is no odd experience to have the truss obliterate the sac and when recurrence does come it will usually result in a less complicated form of hernia. During the second decade and beyond our advice is positive as the presence of the hernia is then permanent. All cases suffering from an inflammation of any degree are instructed particularly as to the possibility of recurrence.

Of the ninety-eight operations on men, there is one Halstead with cure, fifty-five Bassinis with one return, and forty-two Fergusons with three returns. Previous to 1905, there were two cases in which from their description the cord was not displaced, but in all others (thirty-four in number) a Bassini was done. One relapse had occurred and had been reoperated, but the remembrance of the technic of the first operation was such that the failure was ascribed to this rather than to the principle. Beginning in February, 1905, we were influenced to use of the Ferguson operation. This was done as a routine operation forty-two times. The three returns have all been repaired, and the conditions found were identical in each case. There was no sign of the old hernia, but a new one had formed at the most dependent part of the canal. The sac came directly through to the inner side of the cord. When the sac was removed, it was easily demonstrated that if the tissues were replaced as before, this defect would be uncorrected and there seemed to be no reason why the sac would not immediately recur. The only possible procedure was the use of the conjoined tendon and the displacement of the cord, thus performing a Bassini. The percentage of our success as to the displacement or non-displacement is in favor of the former. In view of the formation of an entirely new kind of hernia which comes without displacement of the cord, and which we are powerless to prevent, it has swung the pendulum back in favor of the Bassini, and our present feeling is that if there is a recurrence, we will call it an operative fault and do it over again.

Typhoid Cholecystitis

DR. JOHN E. SUMMERS, Omaha, Neb.: Much discussion has taken place as to the mode of invasion of the gall-bladder by the typhoid bacilli. According to Chiari, the route of infection is not by ascension from the intestinal tract. His theory of gall-bladder infection by the typhoid bacillus is, first, the intestine, thence the blood, and then the gall-bladder. I had one pure case of typhoid cholecystitis, the gall-bladder involvement giving symptoms at the beginning of the first relapse. The absence of any history of gall-stones prior to the illness can fairly fix the initiation of the formation of the stone found in the common duct as taking place probably during the first part of the attack. The time from the beginning of the attack to the time of removal of the stone was from April 1 to August 22—sufficient time for its formation. So far as I know this is the first case of typhoidal cholecystitis with probable formation of the stone during the attack in which the stone was removed from the common duct. Cultures from the center of the stone were sterile—a finding which does not negative the origin of the stone as due to typhoid cholecystitis. Cholecystostomy on typhoid carriers should be done whenever there is evidence of any infection in the gall-bladder or ducts. In cases in which no signs of inflammation can be found, it might be considered that possibly the nesting-place for the bacilli was in a diverticulum and operation is not indicated. There is favorable evidence for the carrying out of cholecystostomy in these dangerous persons.

Plication of the Anterior Broad Ligament for Retrodisplacements

DR. A. W. ABBOTT, Minneapolis: The round ligament is not a natural support of the uterus, while the broad ligament is. Suture of the broad ligament just below the round ligament makes an efficient support and conforms to the natural anatomical requirements. The operation is rapidly done. The failures are less than by other methods, and there is less pain after the operation.

Abdominal Exclusion of the Fundus in Procidentia Uteri

DR. JOSEPH RILUS EASTMAN, Indianapolis: The question of whether the uterus in its normal state is suspended by its ligaments and thus secured in position or is supported or upheld by the muscles and fasciae of the pelvic floor, the ligaments serving only as guides, becomes in the presence of complete procidentia a question of lessened importance, for in these extreme cases hysterectomy or the abdominal operation with fixation is absolutely necessary, in addition to a thorough repair of the vaginal supports, with amputation of the elongated portio vaginalis and curettage. The fixation I make is one in which the uterine fundus is drawn quite through the abdominal wound, the entire fundus being excluded and secured with a large transfixing pin. The pin is allowed to remain in place for two and one-half weeks. In excluding the fundus in cases of complete procidentia, the aim has been to fix the uterus higher than can be done by an ordinary fixation, to provide for firm attachment of the peritoneum, muscles and aponeurosis at a low level on the anterior, posterior and lateral aspects of the uterine body. All of the layers of the abdominal coverings are drawn snugly around the uterine body and sutured to that organ anteriorly, posteriorly and laterally. Two patients thus operated on, though they were past 50 years of age, had not passed the menopause, and in one of these the uterine appendages were removed and in the other the tubes were divided and the peritoneal screen suggested by Ries interposed. In three cases I have seen the abdominal operation was preceded by curettage, amputation of the cervix, anterior and posterior colporrhaphy and perineorrhaphy. In each case the fundus was covered over with skin, growing centrally from the periphery within two or three weeks. Owing to the firmness of the attachment and the elevation given by the transfixing pin, the possibility of sagging or detachment is minimized. The method offers the greatest possible uterine surface for fixation in the abdominal coverings. It makes possible reduction of deformities caused by extreme relaxation as a simple intraabdominal fixation could not do because the uterus is drawn higher and the firmer fixation prevents a yielding ligamentous fixation or a complete sundering of the attached structures, an accident which is perhaps less rare than is imagined.

Lesions of the Hip-Joint and Their Treatment

DR. JOHN B. MURPHY, Chicago: In my recent work in connection with fractures in attaching the upper end of the femur frequently I found a definite condition occurring, namely, absorption of the neck. No such absorption takes place in fractures in any other part of the body. It never occurs when there is a fracture in the upper end of the humerus. This absorption is due to the primary condition of the circulation in the neck of the femur. When there is a fracture, a lesion or disease, the repair of that lesion depends more on the condition of the circulation in the neighborhood than on any other one thing, taking into account always the regenerative potency of the individual structure. In fractures that occur close to the head of the femur, there is practically no absorption at all; no fatty degeneration, no breaking down, no liquefaction of bone. When a fracture occurs close to the base of the neck and there is attachment to the trochanter, it does not tear off the blood-vessels in the capsule inside. That capsule goes down and out and back in again, and the blood-vessels go in a proximal and distal direction, but the bone for a certain distance, in a great majority of cases, is absorbed. If there is a fracture of the neck of the femur which does not tear off the blood-vessels, then the portion between the trochanter and the head remains, and it is capable not only of revascularization, but of ossification, regeneration and of sustaining the neck. In the management of fractures of the femur, it has been the custom to dress them with a straight external splint. What does this do? It tends to shortening by shortening of the adductors, and shortening of the gluteal group of muscles attached to the trochanter, and not only that, the tendency of the adductors is to draw the limb inward, and there is shortening in that position. What the surgeon wishes to do is to reduce to a minimum contraction during the process of absorption of this portion of the head of the femur, so that when absorption has taken place and the tissues are ready for regeneration, it is essential to have the parts in apposition. They can be best maintained in apposition by relaxing the group of muscles which did so much to cause shortening. The ambulatory management of tuberculosis of the head of the femur is wrong. An ambulatory apparatus is applied to prevent motion, and as far as it inhibits motion in a joint it is valuable. But what should it be applied for? To prevent pressure on the inflamed part. When the products of infection are held under tension there is rapid destruction of tissue. This tension should be relieved. The first main principle should be to separate these articular surfaces by an extension apparatus, and then build up the patient to stimulate the process of repair.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

January 12

1 Acute Poliomyeloencephalitis. J. L. Morse, Boston.
2 *Treatment of Acute Poliomyelitis. W. E. Paul, Boston.
3 A Review of Sanitation in Panama. F. P. McCarthy, Boston.
4 Diseases of the Upper Abdomen That May Require Surgical Intervention. J. W. Keefe, Providence, R. I.
5 Mongolian Idiocy. W. N. Bullard, Boston.

2. **Treatment of Acute Poliomyelitis.**—The treatment employed by Paul may be summed up as follows: First are the patients with weakened muscles, and in these the order of value in treatment is: (1) voluntary exercises, (2) electricity, (3) massage. Second are the patients with paralysis, moderate atrophy and reaction of degeneration; in this class the order of value in treatment is : (1) electricity, (2) massage, (3) passive exercise. Third are those with absolute paralysis, complete reaction of degeneration, extreme atrophy and cold extremity; in this class the order of value in treatment is as follows: (1) massage, (2) passive exercises, (3) electricity.

Medical Record, New York

January 14

6 Recent Experiences with Salvarsan. S. W. Lambert, New York.
7 *Practical Points in Treatment of Diseases of the Heart. E. E. Cornwall, Brooklyn, N. Y.
8 Treatment of Chronic Appendicitis with High-Frequency Currents. W. H. King, New York.
9 *Future of Psychotherapy. T. Klingmann, Ann Arbor, Mich.
10 Duodenitis. M. Gross, New York.
11 *Gastric Roentgenology. E. H. Skinner, Kansas City, Mo.

7. **Treatment of Diseases of the Heart.**—The conclusions arrived at by Cornwall are as follows: Make the diagnosis before prescribing treatment. Do not give heart stimulants to restore compensation when rest in bed alone will do it, except in cases occurring in middle or later life in which prolonged rest in bed might prove injurious. Do not give heart stimulants after compensation has been restored. Remember that children and young people should be kept in bed for at least one month after compensation in chronic valvular disease has been completely restored, and that they should be kept in bed for some time after an attack of acute endocarditis, with or without loss of compensation. Learn how to use the best remedies and forget the rest. Do not give digitalis to children or to old people, and always bear in mind the limitations and contra-indications to the use of this drug. Do not exceed 3 minims of tincture of strophanthus at a dose, except in extraordinary cases and when tolerance has been established. If you prescribe mechanical methods of treatment see that the dose is right; they can do harm in overdose as well as drugs. Do not expect to get compensation in a badly decompensated case of valvular disease too soon; be satisfied for a while if, under treatment, the patient does not get worse; improvement in many of these cases must be slow if it comes at all and attempts to hurry it unduly only exhaust the heart. Use the smallest dose of any remedy that will do the work. Rarely tell a patient with serious heart disease how grave is his condition, for such patients easily lose hope and become despondent, which aggravates their condition. The family, however, should always be told, and the patient should be informed of his true condition if that is the only way to secure his cooperation in treatment. Be slow to give up hope, at least of improving the patient's symptoms in apparently desperate conditions, and especially beware of giving too definite a prognosis. Cardiac therapeutics is in the majority of cases a fight against odds, but by the exercise of patience, perseverance, and especially judgment, many may be accomplished.

9. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1674.

11. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1582.

New York Medical Journal

January 14

12 Treatment of Fractures, Especially Those of the Leg. C. Beck, New York.
13 How Pure Milk Cultures of Lactic Acid Ferments May be Obtained. F. S. Mason, New York.
14 Stereoscopic Photography with a Single Camera. W. G. Elmer, Philadelphia.
15 *"Grams"—Radiographs—in Three Dimensions. M. Girsdansky, New York.
16 Identification of the Tubercle Bacilli by Antiformin. D. Felberbaum, New York.
17 Diet, Nutrition and Growth in Children. E. M. Sill, New York.
18 The Heart in Lobar Pneumonia and Its Treatment. E. E. Cornwall, Brooklyn, N. Y.
19 *Fatal Case of Toxic Hematoporphyrinuria Complicating Septic Perforation of the Uterus. S. Wiener, New York.

15. **"Grams" in Three Dimensions.**—Briefly stated, Girsdansky's procedure is as follows: The Roentgen-ray apparatus and the photographic plate are adjusted in the usual manner. Assuming that the object is of such a size as to enable one to photograph it twice on the same plate, put the object over one-half of the plate, while the free half of the plate is protected with a sheet of lead, and a picture is taken. The operation is now reversed; the lead is put over the already exposed part; the object is moved over the still unexposed part, with the utmost care so that it maintains a position as symmetrical as possible to the source of light and to its own former position, and the picture is taken again. When the plate is developed, it shows a picture which resembles one taken with an ordinary stereoscopic camera. A print from such a plate differs from the commercial stereogram in that it is, in relation to the commercial picture, a transposed one, i. e., opposite to the right eye occurs the picture as would be seen by the left retina, and opposite the left eye occurs the picture as would be seen by the right retina. A Roentgenogram from such a plate is placed at a convenient distance from the eyes; a card board of a convenient size is prepared, and in the center of it a window is cut out which is about equal in size to any one individual picture of the twin Roentgenogram. The fenestrated screen is held in front of the print and at such a distance and in such a position that the right hand picture is in its entirety visible to the left eye, and the left hand picture to the right eye. When both eyes are focussed on the brim and frame of the card board window, the Roentgenogram appears at the plane of the window, as an image in three dimensions. If any difficulty at all is experienced at the beginning in the focussing of the eyes at the place of the empty window, one or more microscopic slides are fastened to the windowed card board by means of adhesive plaster, so as to cover it completely or in part and the observer proceeds as before. The image in three dimensions seems to appear on or between the glass slides.

19. **Toxic Hematoporphyrinuria.**—In this case the patient took repeated doses of saffron to induce abortion. Several similar cases are recorded in the literature. The symptoms of saffron poisoning, besides the hematoporphyrinuria are colic, vomiting, purging and convulsions, followed by delirium and coma.

Lancet-Clinic, Cincinnati

January 7

20 Smith's Cataract Operation. (Continued.) D. T. Vail, Cincinnati.
21 Physiologic Measures in Treatment of Nervous Diseases. T. A. Williams, Washington, D. C.
22 Seasickness. H. R. Carroll, Cincinnati.

January 14

23 Smith's Cataract Operation (Concluded). D. T. Vail, Cincinnati.
24 *Pain in Abdominal Disease. W. M. Harsha, Chicago.

24. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1132.

Surgery, Gynecology and Obstetrics, Chicago

December

25 *Surgical Treatment of Ulcers Along the Lesser Curvature of the Stomach. R. C. Coffey, Portland, Ore.
26 Use of the Finger in Rhinoplasty. T. A. McGraw, Detroit.
27 Ligation and Partial Thyroidectomy for Hyperthyroidism. C. H. Mayo, Rochester, Minn.
28 Brain Tumor with Impaction in Foramen Magnum Following Lumbar Puncture. W. W. Hamburger, Chicago.
29 Cerebral Hernia Following a Decompression Operation for Tumor of the Brain. C. A. Parker, Chicago.

30 [illegible] Vaginal Cesarean Section. H. M.
31 [illegible] Treatments for Pelvic Infection.
32 *[illegible] Insanity. J. C. DaCosta, Philadelphia.
33 Sarcoma of the Uterus. H. C. Dalton, St. Louis.
34 Use of Corpora Lutea in Gynecology. C. A. Hill, Pittsburg.
35 Traumatic Rupture of Pus Tubes, Causing Diffuse Peritonitis. C. M. Echols, Milwaukee, Wis.
36 Cesarean Section for Mechanical Obstruction; Ovarian Fibroma. G. Link, Indianapolis.
37 *A Popliteal Aneurysm of Unusual Size. J. R. B. Branch, Macon.
38 Technic of Nerve Alcoholization in Treatment of Spasticity and Muscle Group Overaction. N. Allison, St. Louis.
39 *Prostatectomy by the Perineal Route Without Opening the Bladder, with Immediate Suture. A. E. Hertzler, Kansas City, Mo.
40 *Extirpation of Upper Rectum and Sigmoid; the Noble Anastomat Modified. J. F. Baldwin, Columbus, Ohio.
41 Technic of Operations for Dilating the Os Uteri at or Near Term. C. B. Reed, Chicago.
42 *New Technic for Keeping Count of Gauze Pads. C. W. Barrett, Chicago.
43 *New Forceps for End-to-End Intestinal Anastomosis. L. J. Pollock and W. C. Speidel, Chicago.
44 *New Apparatus for Fracture Fixation. F. J. Cotton, Boston
45 An Intravesical Ureterorenal Tumor. W. H. Luckett, New York.

25. **Surgical Treatment of Ulcers of the Stomach.**—The fact that very little has been said as to the surgical treatment of ulcers along the lesser curvature, and less as to the proper technic for excising an ulcer, prompts Coffey to report briefly five cases in which the patients were operated on during the year and in which a complete symptomatic recovery took place. These cases illustrate the various forms and locations of ulcers along the lesser curvature, and the variety of technic used. In Case 1, excision of the lesser curvature was done. This patient made a complete recovery, and five months after operation is well. Case 2 was one of long-standing ulcer which had finally healed and contracted the middle of the stomach down to a small tube with a caliber not larger than a lead pencil. Coffey excised the constricted portion of the stomach and duodenum, and did an end-to-end anastomosis between the two pouches. The clinical results were perfect, and the patient was well five months after the operation. In Case 3 the cicatrix of an old ulcer had almost completely closed the pylorus, and another large ulcer, located about the middle of the lesser curvature, was still active and bleeding but had contracted and formed sufficient scar tissue to make an hour-glass stomach. Only a narrow tube of healthy stomach remained on the greater curvature, therefore the only operation which offered hope of cure without incurring too much risk, was a gastrogastrostomy connecting the two pouches, and a gastrojejunostomy connecting the pyloric pouch with jejunum. The patient began to take nourishment on the third day and within two weeks was eating full meals and was well and fat when last heard from, seven months after the operation. Case 4 was one of ulcer well up toward the esophagus on the lesser curvature, which had gradually contracted producing almost complete stenosis near the esophagus, a small stomach tube passing with difficulty. The ulcer was excised and the wound closed transversely. The patient was symptomatically well five months after operation. In Case 5, a hard indurated ulcer was located in the posterior wall near the lesser curvature. The thick ragged edges of the ulcer were excised and the wound closed. The patient made an uninterrupted operative recovery.

32. Abstracted in THE JOURNAL, Dec. 10, 1910, p. 2093.

37. **A Popliteal Aneurysm of Unusual Size.**—In Branch's case the left leg was the seat of a tumor, extending from within a few inches of the great trochanter to midway between the knee-joint and ankle. There was no motion at the knee-joint. The tumor was tender, especially behind the knee. The presence of fluid was demonstrated by a sensation of fluctuation at this point, and also over the small area about 2 inches internal to the patella and behind. A slight pulsation was seen and a slight murmur heard. The circumference of the right knee was 13 inches and of the left knee, 27.5 inches; right calf, 14 inches; left, 18 inches. A hip-joint amputation was done, but the patient never rallied from the operation, and died the following day.

39. **Prostatectomy by the Perineal Route.**—Elimination of the open wound, avoidance of perineal fistula, and prevention of incontinence are the ends Hertzler seeks to attain by his operation. By means of a modified Young's tractor, small enough (26 F.) to pass through the urethra without injuring it, the prostate is controlled and pushed into the wound so as to be accessible through the perineal incision. The bladder is moderately distended with water injected through the tractor, which is made hollow for the purpose. An inverted-V incision is made, beginning over the bulb and extending laterally on each side to the ischial tuberosities. The soft parts are incised down far enough to expose the median raphé. A Young's forked retractor is placed in position and strong traction is exerted. The raphé and levator are not incised, the urethra is cleared down to the prostate and the lower and posterior surfaces of the gland are exposed. Care must be taken to separate the rectum from the posterior surface as far as the bladder. As the dissection is done, all freely bleeding points are clamped and ligated. The capsule of the prostate is incised and separated from the gland on the lateral side as far back as the bladder. The dissection of the prostate from the urethra is then begun. If a median lobe exists it may be pressed into the wound after the lateral lobes have been removed. The opposite lobe is treated in the same way. When the lobes have been removed complete hemostasis is secured by making a purse-string suture in the depth of the wound, including the remains of the capsule and the rectum. *The water is then drained from the bladder through the tractor*, and if it is not blood-stained it may be assumed that the mucosa of the bladder and urethra has not been injured. The wound may then be closed, care being taken to obliterate all dead spaces by buried catgut sutures. The structure external to the cavity occupied by the prostate may be closed by *sweeping silkworm gut sutures which pass through the* skin after the manner of obstetric repairs of the perineum. The bladder is again irrigated and the blades of the tractor are closed while the bladder is distended, in order to avoid catching the wall between the blades of the tractor. The water may be allowed to escape before the tractor is removed. The wound which results, resembles that produced by a perineorrhapy. If the urethra is intact, healing is complete in a week. Should the method fail, the necessary number of silkworm sutures may be removed and the wound treated as an open one just as though no primary union had been attempted. The operation as described, or a modification of it, has been done by Hertzler eight times. Infection requiring a complete opening of the wound occurred in one case, and partial opening was required in two other cases.

40. **Extirpation of Upper Rectum and Sigmoid.**—Baldwin has modified the Noble "anastomat" by making a curved tube, and by adding a spring device, to maintain the parts in apposition, as in the Murphy button. The inner tube is cut into a spiral, so as to furnish a spring of proper tension. To this is attached a hook which catches over the lower end of the outer tube. This hook can easily be caught with a hemostat, or with a special device. The inner tube being made flexible by the cutting of the spring enables one to bring the parts into position with less traumatism of the mesosigmoid than is possible with a rigid tube. Three of Baldwin's patients were women, and in these three he opened the cul-de-sac and passed gauze from above into the vagina so as to offer an additional protection in case of any leakage at the point of union in the bowel. In one of these cases this feature of the technic doubtless saved the patient's life, as a fecal fistula developed into the vagina; it had closed, however, when the patient left the hospital.

42. **Keeping Count of Gauze Pads.**—To laparotomy pads of all sizes, Barrett attaches a small, smooth, inexpensive snap through the medium of an 8 or 10-inch tape. To the laparotomy sheet a large horse-blanket pin, such as is now commonly used to group instruments, is attached a little distance from the wound. When each sponge comes to the field of operation it is snapped to the safety pin and is then introduced, the number of snaps indicating at all times the number of pads in the wound, and the tapes furnishing a ready means

of reaching the pads. The snaps are fixed, are not needed for other purposes, and are not to be confused with other instruments used and so remain at their task. Any sponge may be detached at will.

43. **Forceps for Intestinal Anastomosis.**—The instrument devised by Pollock and Speidel consists of a forceps shaped so as to form at its end an oblong square having at the center of its distal side two rings which may be approximated; these rings are inserted into slots, whereby rings of several sizes may be used in the instrument, the sizes being ½, ⅝ and ¾ inches on their outside diameter. These rings are hinged, and the halves of the rings are held together by means either of a spring or a ball-and-socket lock. After the application of intestinal clamps, the mesenteric arteries are tied, the mesentery incised, and the intestines resected or divided in the usual manner. Each end of the intestines is then drawn through the rings by a fine tissue forceps, and the ends turned back over the rings as a small cuff. The forceps is then closed, thereby bringing the mucosa of the two ends of the intestines into apposition. There is no difficulty in turning back the mesenteric border and with it a small amount of the mesentery; the first suture, including the mesentery and the mesenteric border of the intestines, allows no subsequent bleeding. The severed ends may then be sutured by any of the various methods in vogue. The forceps is then removed by opening the rings and the mesentery is sutured in the usual manner.

44. **New Apparatus for Fracture Fixation.**—In certain old or new fractures (usually approximately transverse fractures) of the femur that cannot be brought into place by ordinary methods, in a certain few fractures of the upper arm, and some few fractures of the lower leg, Cotton uses an apparatus which consists of steel screws of a diameter of 5/16 inch, with a screw thread of 24 turns to the inch cut on the fore end for a distance of 1¾ inches, and at the butt for a distance of 3¼ inches. This leaves a smooth polished shank at the point where the skin must eventually lie in contact with the screw. Each screw is cut at its tip into the shape of a "diamond-point" drill, at the other end it is so squared and tapered that it may be held firmly and squarely in a "drill chuck." The drill handle used is one furnished with such a "chuck," operating on the same principle as the more familiar "automatic" screw-driver. All that is necessary is to set the drill screw in the handle squarely, to set the point against the bone, and then alternately press on and release the "automatic" handle. Two screws are inserted into each fragment. The next step is accurate reduction of the fracture fragments. On each screw is spun a nut. Then over the whole set of screws comes a perforated oak board and then the washers. These nuts and washers are not steel, but iron, soft enough so that they can be "jammed" or "froze" in the setting up, giving a peculiarly rigid fixation. The advantage of this arrangement is said to be that an absolutely rigid fixation may be secured in this way without the least tendency to twist the screws (and with them the bones) out of the proper alignment.

Military Surgeon, Washington, D.C.

January

46 Enzootic Plague in the United States. W. C. Rucker, Washington, D. C.
47 Experiments on Relative Absorption of Solar Heat by Olive-Drab and Khaki-Colored Drilling. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. Army.
48 Report on the 1910 Camp of the Division of the Pennsylvania National Guard at Gettysburg, Pa. A. S. Stayer, N. G. Pa.
49 Lessons Learned at Maneuver Camp. C. D. Center, I. N. G.
50 Report of the Chief Sanitary Officer of the Division, Camp of Illinois National Guard, at Peoria, Ill., 1910. D. W. Rogers, I. N. G.
51 The Army and the National Guard from the Viewpoint of a National Guard Officer. H. I. Jones, Ind. N. G.
52 Flat-Foot: A Possible Cause of Back-Ache. E. C. Hill, U. S. Army.
53 Ankylostomiasis. C. L. Cole, U. S. Army.

Quarterly Bulletin Northwestern University Medical School

December

54 *Perforating Duodenal Ulcer with Fat Necrosis. H. M. Richter, Chicago.
55 Significance of the Apex-Beat in Diagnosis of Cardiac Conditions. A. F. Reifeld, Chicago.
56 *Unusual Action of Acetyl-Salicylic Acid. W. H. Buhlig, Chicago
57 *Bacteriology of the Stomatitis of Pellagra. W. H. Buhlig, Chicago.
58 *A Stable Anilin Gentian-Violet. W. H. Buhlig, Chicago.
59 *A New Theory Regarding the Mechanism of Skull Fractures. F. A. Besley, Chicago.
60 Diaphragmatic Hernia. J. H. Hess, Chicago.
61 Six Cases of Intestinal Obstruction. C. M. Fox, Chicago.
62 Quinin and Urea Hydrochlorate as a Local Anesthetic. V. D. Lespinasse, Chicago.
63 Mixed Hypercytosis, Its Nature and Significance. J. F. Hultgen, Chicago.

54. **Perforating Duodenal Ulcer with Fat Necrosis.**—Attention is called by Richter to an infrequent source of fat necrosis, the escape of duodenal contents into the peritoneum. In his case, on opening the abdomen, there immediately presented itself a widespread peritonitis, with considerable effusion, and with areas of fat necrosis widely distributed. The pancreas was immediately exposed, and found to be normal, though the injected overlying peritoneum suggested momentarily acute pancreatitis. Attention was then directed toward the duodenum, and a small perforation was found on its anterior border, about two inches from the pylorus. On retracting the liver and gall bladder, bile could be seen pouring through the opening. A thick inelastic ulcer could be made out in the bowel wall. The perforation was closed with sutures, and a posterior gastrojejunostomy made. A suprapubic peritoneal drain was inserted. The patient recovered.

56. **Unusual Action of Acetyl-Salicylic Acid.**—In Buhlig's case, about four hours after the ingestion of 10 grains of acetyl-salicylic acid, the face, particularly the lips and around the eyes, began to redden somewhat and swell, and shortly was so edematous and stiff that it was an effort to move the lips or eyelids. The bloating was so extreme as to give the impression of a local action of some poison. All over the body there was an urticarial eruption and a hoarseness developed, which a laryngologist asserted was due to edema. The maximum effect was reached in about an hour and a half, after which the edema and the eruption gradually receded.

57. **Bacteriology of the Stomatitis of Pellagra.**—In twelve out of fourteen cases in which direct smears were examined by Buhlig, there was found a combination of spindle-shaped bacilli and long wavy spirochetes. It is Buhlig's opinion that these symbiotic organisms, so common in ulcerative conditions, were one factor in the origin of the stomatitis. Both spirochetes and bacilli were Gram-negative, the latter sometimes only partially so. Cultures on Loeffler's serum were made from a number of these mouths. This particular medium was selected because there often were slight exudates in the mouths near the ulcerations. In these cultures many Gram-negative organisms were found which, from their size and their irregular staining with Loeffler's methylene blue, suggested that they probably were colon bacilli. As a matter of interest only, one of these cultures was plated and some of the colonies carried through the various media. Buhlig secured two Gram-negative organisms, one which corresponded nearly to the *Bacillus lactis aerogenes*, and the other was the *Bacillus cloacæ*, so far as could be judged from cultural and microscopic methods.

58. **A Stable Anilin Gentian-Violet.**—Briefly, this is accomplished by excluding light and air as much as possible from the solution after it is prepared. Buhlig never filters anilin gentian-violet and, therefore, in addition to allowing the minimum action of air and light, he never disturbs or shakes the bottle containing this solution. This is practically carried out by putting the anilin gentian-violet into a syphon-bottle of very dark brown glass. The intake for air is cut down to a capillary bore of such size that will still allow a flow of liquid, and the delivery tube is painted black to the tip with asphaltum paint. The lower part of the intake tube for air is also painted, to be quite certain of excluding light. This arrangement affords convenience as well as assuring a dependable stain.

59. **Mechanism of Skull Fractures.**—On investigation, Besley found that the fractures of the base bear a marked similarity in point of direction and location, regardless of where the blow is struck on the vault. These fractures do not follow the lines of least resistance, as to thickness or tensile strength.

The frequent occurrence of fractures in the middle fossa just anterior to the condyles, he believes, is confirmatory evidence of the inbending factor, due to counter force applied at the condyles.

American Journal of Urology, New York

December

64 A Case of Renal Calculi. F. C. Walsh, San Antonio, Texas.
65 Toxic Anuria Due to Bichlorid of Mercury. L. Gross, San Francisco.
66 Traumatic and Postoperative Retention of Urine. C. G. Cumston, Boston.
67 Normal Urine in a Patient with a Right Pyonephrosis. G. W. Warren, New York.

New Orleans Medical and Surgical Journal

January

68 Extrauterine Pregnancy. J. D. Bloom, New Orleans.
69 *A Simple Expedient in Treating Complicated Fractures of the Lower Jaw Forbidding Intrabuccal Prosthetics. L. H. Landry, New Orleans.
70 *Diabetes Mellitus Among Negroes. I. I. Lemann, New Orleans.
71 Gunshot Wounds of the Abdomen. C. Wilson, Birmingham, Ala.
72 Post-Diphtheritic Paralysis. L. L. Gazenavette, New Orleans.
73 Treatment of Syphilis of the Nervous System by Mercurial Inhalations in a Thermo-Diaphoretic Room. S. Schiro, New Orleans.
74 Neuralgia Pain in Distribution of Nerves Pressed on by Inflammatory Exudate and Scar Tissue, E. M. Hummel, New Orleans.
75 Study of the Blood in Certain Acute Infectious Diseases of Childhood and Their Diagnostic Value. J. J. Robert, Baton Rouge.
76 Treatment of Chorea. L. R. DeBuys, New Orleans.
77 Nephritis in Children. E. D. Fenner, New Orleans.

69. **Complicated Fracture of the Lower Jaw.**—The type of case considered by Landry is the case in which the splint is contra-indicated; that is, in multiple fractures of the jaw or marked compound cases with separation of the alveolar process, or cases with marked swelling and hematoma forbidding any intrabuccal appliance owing to pain and inability of keeping the mouth clean, etc. Landry has had occasion to study and observe two such cases. After reducing the fracture as much as possible, five or six turns of a thin Esmarch elastic bandage were taken *around the head and chin*, bringing the crowns of the teeth of the lower jaw in contact with those of the upper, and at the same time favoring and promoting the reduction and absorption of the hematoma and edema. The patient complained of inability to swallow, but this was due to the swelling and reactionary edema of the parts following the traumatism. Special attention was given to the cleaning of the mouth, particularly with the immobilizing bandage in place, which favored salivary stagnation and putrefaction. An irrigating can armed with a douche nozzle was attached to the head of the bed, and the patient instructed to use it himself, every hour, while awake, allowing the solution to go in as far back as possible and flow outward. In two or three days the swelling had subsided enough to allow him to take soft food. In four or five days, all the acute symptoms having subsided, the patient was allowed to walk about. The bandage was removed and readjusted whenever necessary to wash and freshen the skin. After seventeen days the patient was allowed to leave the hospital, with only a slight deformity and a good functioning jaw.

70. **Diabetes Mellitus Among Negroes.**—Among about 3,000 negroes Lemann *found five cases of diabetes, four of which* were severe. He says that there is no great difference in the frequency of the disease among whites and among negroes. The etiologic importance attributed by many authors to syphilis and alcoholism loses weight when viewed in the light of the statistics. The widespread existence of syphilis and alcoholism among the race has had no great effect in producing diabetes among them. In Lemann's series of negro diabetics neither of these factors seemed to have played any part in the causation of the disease. Another interesting point worthy of attention is the diet of the negro race. It is often preponderatingly carbohydrate with its hoecake, rice, hominy, and sugar cane. On the sugar plantations during the fall and winter months, sugar cane is an extremely important part and often a major portion of a day's dietary among the laborers. Certainly their carbohydrate function must be capable of caring for huge quantities if it can stand this strain.

Journal of Advanced Therapeutics, New York

December

78 Electricity in Treatment of Gout. F. de Kraft, New York.
79 Roentgen-Ray Treatment of a Case of Lymphoid and Myeloid Leukemia, with Blood Findings of Each. J. W. Torbett, Marlin, Texas.
80 A Pendulum for Interrupting the Static Wave Current. G. E. Pfahler, Philadelphia.

American Journal of Physiology, Boston

January

81 *Physiology of Cell Division. R. S. Lillie, Philadelphia.
82 *Effects of Pressure on Conductivity in Nerve and Muscle. W. J. Meek and W. E. Leaper, Madison, Wis.
83 Effects of Stretching the Nerve on the Rate of Conduction of the Nervous Impulse. A. J. Carlson, Chicago.
84 Production of Glycosuria by Adrenalin in Thyroidectomized Dogs. F. P. Underhill, New Haven, Conn.

81. **Physiology of Cell Division.**—The chief experimental results of Lillie's work proved that the addition of small quantities of calcium chlorid to isotonic solutions of sodium salts (1) prevents the rapid increase in permeability produced in the unfertilized eggs of asterias and arbacia by the pure solution, (2) produces at the same time a marked decrease in the toxicity of the solution, and (3) prevents the membrane formation and initiation of cell division which are typically induced by the pure solution. The view is thus confirmed that both the toxic action of the pure salt solution and its action in initiating cell division are due primarily to the production of a condition of increased surface permeability. This increased permeability is, however, temporary in normal or favorable parthogenetic fertilization. Treatment with hypertonic sea-water after the formation of fertilization membranes by salt solutions results in an increase in the proportion of favorably developing eggs, especially in the case of arbacia, of which the majority of the eggs thus treated may reach active larval stages. Since hypertonic sea-water thus prolongs the life of the egg—an effect comparable to that of calcium in the above antitoxic action—and since prolonged life implies a practically normal permeability, the inference is drawn that the essential effect of such after-treatment is to bring the permeability—which has been increased by the initial membrane-forming treatment—again to the normal. An artificially induced increase is thus followed after a favorable interval by an artificially induced decrease of permeability. Without such after-treatment few eggs succeed in developing beyond an irregular early cleavage stage and development is abnormal.

82. **Effect of Pressure on Conductivity in Nerve and Muscle.**—The average time required to block the time impulse in the sciatic nerve of a frog by means of a constant pressure of 40 pounds was found by the authors to be 7.5 minutes. Under the same conditions 4.4 minutes were required to establish block in fresh sartorius muscles, and 2.4 minutes in curarized muscle. In both nerve and muscle the time necessary to interrupt conduction was proportional to the pressure applied and the strength of the stimulus. Immediately after the application to nerves of pressures not exceeding 20 pounds, stimuli of a given strength frequently caused an increased height of contraction in the recording muscle. There was probably a summation in the muscle of impulses set up in the compressed area with those due to the electrical stimulus.

Pennsylvania Medical Journal, Athens

December

85 *Past, Present and Future of Surgery. J. B. Deaver, Philadelphia.
86 *Significance of Transient Cerebral Crises and Seizures as Occurring in Arteriosclerotics. J. D. Heard, Pittsburg.
87 Symptomatology and Pathology of Tumors of the Pituitary Body. J. H. W. Rhein, Philadelphia.
88 Brain Abscess in Frontal Region; Operation; Death, with Necropsy Findings. T. Diller and J. K. Everhart, Pittsburg.
89 Trachoma and Facts Concerning Its Existence in Pennsylvania. C. M. Harris, Johnstown.
90 Progress of the Trachoma Campaign in Pennsylvania. C. P. Franklin, Philadelphia.
91 *Infant Mortality. S. G. Dixon, [illegible]
92 Urgent Need of More Adequate [illegible] the Indigent Insane of Pennsylvan[illegible]
93 Fear, as It Is Manifested in Ps[illegible] and Its Bearing on Treatment. W. K. Walker, Pittsburg.
94 *Acute Dilatation of the Stomach. E. Laplace, *Philadelphia.*
95 *Chronic Gastromesenteric Ileus. G. P. Müller, Philadelphia

85, 94 and 95. Abstracted in The Journal, November 19, p. 1837.

86 and 91. Abstracted in The Journal, Oct. 29, 1910, pp. 1580 and 1581.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

January 1

96 *The Heart in Disease of the Thyroid. J. S. Gilfillan, St. Paul.
97 Sinus Inflammation and Its Effect on the Eyes. T. McDavitt, St. Paul.
98 Epidemic Poliomyelitis: Prevention, Diagnosis and Treatment. W. A. Jones, Minneapolis.
99 A Case of Abdominal Pregnancy. F. A. Dunsmoor, Minneapolis.

96. Abstracted in The Journal, Nov. 19, 1910, p. 1832.

Kentucky Medical Journal, Bowling Green

December 15

100 Heart Block. F. C. Askenstedt, Louisville.
101 Movable Kidney. I. Abell, Louisville.
102 The Wassermann Reaction. E. S. Allen, Louisville.

American Journal of Diseases of Children, Chicago

January

103 *Anatomic Features of the Child's Thorax and Their Practical Application in Physical Diagnosis. G. Fetterolf and J. C. Gittings, Philadelphia.
104 *Three Hundred Cases of Acute Meningitis in Infants and Young Children. L. E. Holt, New York.
105 *Constant Presence of Tubercle Bacilli in the Cerebrospinal Fluid of Tuberculous Meningitis. J. Hemenway, New York.
106 *Influenza Meningitis and Its Experimental Production. M. Wollstein, New York.
107 Amaurotic Family Idiocy. I. A. Abt, Chicago.
108 *Atypical Scarlet Fever. C. G. Kerley, New York.

103. **Anatomic Features of the Child's Thorax.**—This work consisted of making dissections and sections of the bodies of infants which had been injected with a 10 per cent. dilution of liquor formaldehydi and then frozen. The results of the author's study of these preparations are embodied in this paper.

104. **Acute Meningitis in Infants and Children.**—The observations included in Holt's paper relate to 300 cases of acute meningitis seen in children for the most part under 3 years of age. Of this number 197 were observed during the lumbar puncture period and are available for more careful analysis. He says that apart from epidemics of cerebrospinal meningitis, 70 per cent. of the cases of acute meningitis occurring in young children are tuberculous. Etiologically, the 197 cases were divided as follows: Tuberculous, 138 cases; pneumococcic, twenty-two cases; meningococcic (sporadic), twenty-four cases; staphylococcus or streptococcus, ten cases; influenzal, four cases; due to colon bacillus, one case. Two of these cases were mixed infections. Holt urges that lumbar puncture should be employed in every suspected case. It is only with very rare exceptions that to a skilled observer it gives uncertain results. In tuberculous meningitis, bacilli are always present in the cerebrospinal fluid; although difficult to find in the early stages, in later stages a careful examination should discover them. The v. Pirquet test in most cases gives positive results. In infants and very young children tuberculous meningitis occurs usually as an early manifestation of a general tuberculosis, and generally causes death before the lesions elsewhere are far enough advanced to give definite signs or symptoms. Pulmonary lesions are present in nearly all cases. Tuberculous meningitis is of human origin. Altogether the most frequent cause is exposure to adults with pulmonary tuberculosis. The age incidence and the seasonal occurrence are points which are not yet fully explained. Pneumococcus meningitis usually occurs in younger patients, and is associated with pneumonia. Clinically it resembles meningococcus meningitis but usually the course is shorter and it is almost invariably fatal. Influenza meningitis is infrequent and also resembles the cerebrospinal form; it, too, is almost invariably fatal. Streptococcus and staphylococcus meningitis are very rare forms in infancy, usually occur in the new-born and are often associated with spina bifida (but seldom follow mastoid disease); under such circumstances they are always fatal. Meningococcus meningitis is really the only variety in which at present there may be said to be any hope of recovery. The results in this variety of meningitis have been greatly improved by serotherapy.

105. **Tubercle Bacilli in the Cerebrospinal Fluid.**—In all but 2 of the 137 cases of tuberculous meningitis, tubercle bacilli were demonstrated in the cerebrospinal fluid. The fluid is collected in several test tubes, allowing about 20 c.c. to a tube. The last fluid withdrawn after the child has been raised to the sitting posture is considered the most important, as the bacilli are usually found more readily in this. Care must be taken not to shake the tubes. It has been found that a fibrin coagulum, the so-called film, forms oftener in tubes which have not been agitated. The fibrin coagulum is at first very delicate and friable. It forms with greater regularity and becomes firmer in fluids which have been placed in the incubator over night. After ten hours it is usually so firm that the entire film can be removed with a platinum loop. It is then carefully spread with fine needles on a glass slide. This is stained by the carbol-fuchsin Gabbett method. Bacilli were found with comparative ease in every case in which the film formed. In several cases in which the question of immediate diagnosis was extremely important, there was a sufficient coagulum after the fluid had stood three hours to enable one to find the bacilli.

106. **Influenza Meningitis.**—There have come under Wollstein's observation, within the past year, eight cases of influenza meningitis, from which the influenza bacillus was isolated in every case from the fluid removed by lumbar puncture, and the cultures studied in respect to their biologic reactions. All the cases terminated fatally.

108. **Atypical Scarlet Fever.**—Kerley cites a number of instances to prove that many cases of scarlet fever are so atypical as to go unrecognized until a sequela makes its appearance. He says that it is a disease of direct infection; it is rarely carried by a second person or object. The most contagious period is early in the disease during the period of angina, rash and temperature, therefore, the danger of transmitting the disease during the desquamation period is much exaggerated. Wrongly diagnosed and unsuspected cases are the great transmitters of the disease. During a scarlet fever epidemic, every suspect must be quarantined until he gives reasonable proof of innocence. The most constant symptom is the angina, a deep general congestion of the fauces, but even this may fail. In its symptomatology, scarlet fever is the most inconstant of the exanthemata. In its severity there are the widest possibilities.

Bulletin of the Manila Medical Society

November

109 Mortality Among Filipino Infants as Compared with Mortality Among European and American Infants. J. Albert, Manila.
110 Relation Between Physical Condition of Cattle and Their Resistance to Cattle Plague. E. H. Ruediger, Manila.
111 Medical Notes from French Indo-China. E. R. Whitmore, U. S. Army.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January

112 Abnormal Implantation of Placenta. W. H. W. Knipe, New York.
113 *Should Eclamptic Mothers Nurse Their New-Born Infants? J. R. Goodall, Montreal.
114 Factors Concerned in Spontaneous Rupture of the Uterus. W. R. Wilson, Philadelphia.
115 *Value of Local Treatment in Gynecologic Cases. J. V. Young, New York.
116 *Pelvic Reflexes. R. T. Morris, New York.
117 *Two Cases of Perforated Gastric Ulcer. T. B. Noble, Indianapolis.
118 *Importance of Public and Private Hospitals in the Education of Young Physicians and Nurses, and the Clinical Instruction of Practitioners. J. Price, Philadelphia.
119 *High Operations in Cesarean Section. W. H. Humiston, Cleveland.
120 "Apical Pregnancy," a Pregnancy in the Horn of a Normal Uterus. H. Grad, New York.
121 *Fibromyomata of the Uterus, Complicating Pregnancy, Labor and the Puerperium. R. W. Lobenstine, New York.
122 *Treatment of Obstruction of Bowels Due to Malignant Neoplasm. M. J. Rosenthal, Fort Wayne, Ind.
123 Torsion of the Great Omentum. W. J. Gillette, Toledo, Ohio.
124 *Secondary Repair of Complete Perineal Laceration; Its Technic and Results. E. J. Ill, Newark, N. J.
125 *Cesarean Section, the Pregnant Uterus Being Within an Umbilical Hernia. J. H. Carstens, Detroit.

113. **Should Eclamptic Mothers Nurse Their New-Born Infants?**—This paper was also published in the *Montreal Medical Journal*, November, 1910.

115. Local Treatment in Gynecologic Cases.—The cases in which Young regards local treatment as of value may be outlined as follows: inflammation of the external genitalia, infections and inflammations of the urethra and bladder, many conditions of the rectum and anus not mentioned in this paper, inflammatory and infectious conditions of the vagina, cervix, and endometrium, erosions, ulcerations or cystic degeneration of the cervix, cervical stenosis, uterine and pelvic congestion, local peritonitis, tubal infection, retroversion and the inoperable uterine prolapse of elderly patients. Preparatory to operation, local treatment has seemed to Young to be of great value both in private and hospital practice. In the relief of postoperative pain, and absorption of exudate left after operative procedures where infection had existed, the results have been most satisfactory.

116, 117, 118, 119, 121, 124 and 125. Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1402, 1403 and 1404.

122. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1311.

Western Medical Review, Omaha, Neb.

January

126 Insanities of the Puerperal Period. J. M. Aiken, Omaha.
127 Anterior Poliomyelitis. M. A. Ames, North Platte, Neb.
128 Preparation for and Operation of Appendicitis and Appendiceal Abscess. W. L. Sucha, Orleans, Neb.
129 Postoperative Acute Gastric Dilatation. H. M. Hepperlin, Beatrice, Neb.
130 The Emergencies of Hemorrhage and Eclampsia. A. E. Mack, Omaha, Neb.

Ophthalmology, Seattle, Washington

January

131 *An "Unlearnable" Vision Test Card for Use in the Naval Service. E. J. Grow, U. S. Navy.
132 Cyclophoria. A. A. Bradburne, Southport, England.
133 Etiology, Pathology and Treatment of Concomitant, Convergent Squint. L. Emerson, Orange, N. J.
134 *Trachoma Treated After the Coover Method. H. H. Martin, Savannah, Ga.
135 An Unusual Factor in Amblyopia. F. M. Ruby, Union City, Ind.
136 Treatment of Dacryocystitis. G. Goldseth, Jamestown, N. Dak.
137 Traumatic Subconjunctival Dislocation of Cataractous Lens in Its Capsule. F. P. Maynard, Calcutta.
138 Presence of Non-Inflammatory Exudates in the Aqueous Humor. B. Chance, Philadelphia.
139 Marginal Ring Ulcer of the Cornea. S. H. Brown, Philadelphia.
140 A Case of Ulcerous Scleritis. H. Rönne, Copenhagen, Denmark.
141 Electrolysis in Treatment of Indolent Ulcers and Fistulas of the Cornea. F. Cornwall, San Francisco.
142 Anterior Chamber Irrigation After Cataract Extraction. E. T. Smith, Queensland, Australia.
143 Rupture of the Chorioid. G. F. Keiper, Lafayette, Ind.
144 Spasm of the Retinal Arteries. H. D. Bruns, New Orleans.
145 Spontaneous Thrombosis of the Central Vein of the Retina Following Parturition. A. Brav, Philadelphia.
146 Vaccine Therapy and Serotherapy in Ocular Tuberculosis. G. S. Derby, Boston.

131. Also published in the *United States Naval Bulletin*, August, 1910; abstracted in THE JOURNAL, Aug. 6, 1910, p. 534.

134. Trachoma Treated by Coover Method.—The first fifteen of the sixty patients seen by Martin were treated after Coover's method unmodified, the remaining forty-five were treated after the Coover method modified as follows: Instead of burning alcohol or making any other attempt to sterilize the sandpaper, he used the sandpaper just as it came from the shop, but immediately after the operation, the conjunctival sac was copiously irrigated with normal salt solution in order to clear the sac of any loose grains of sand; the lids were then everted and thoroughly scrubbed with gauze sponges and a 1 to 5,000 bichlorid solution (this was done also in the first fifteen). In the entire sixty cases there was no evidence of infection having occurred during the operation. Martin is convinced therefore that any attempt to sterilize the sandpaper is troublesome, unsatisfactory and entirely unnecessary. Immediately after the operation, the patients were kept in bed until they had recovered from the anesthetic, but no dressings or local applications were used.

Mississippi Medical Monthly, Vicksburg

January

147 Quinin in Malaria. J. T. Longino, Jonestown.
148 Fractures of the Skull. M. H. Roberts, Eberneezer.
149 A Case of Malarial Congestion. L. D. Harrison, Clarksdale.
150 Use of Gonococcus Vaccine in Chronic Gonorrheal Affections. S. T. Wells, Alligator.

Annals of Surgery, Philadelphia

January

151 Testing the Efficiency of the Collateral Circulation as a Preliminary to the Occlusion of the Great Surgical Arteries. R. Matas, New Orleans.
152 Anatomic and Surgical Desiderata in Exposure and Removal of the Hypophysis Cerebri. A. E. Schmitt, New York.
153 Treatment of Roentgen-Ray Ulcer. R. C. Turck, Jacksonville, Fla.
154 Posterior Gastro-Enterostomy, Three Years After Anterior Gastro-Enterostomy. M. A. Fauntleroy, U. S. Navy.
155 Non-Prostatic Urinary Retention of the Senile Bladder. M. W. Ware, New York.
156 Bone Abscess Treated with Moorhof's Bone Wax. C. C. Simmons, Boston.
157 Laceration of the Axillary Portion of the Capsule of the Shoulder-Joint as Factor in Etiology of Traumatic Combined Paralysis of Upper Extremity. T. T. Thomas, Philadelphia.
158 Disinfection of the Skin by Tincture of Iodin. C. L. Gibson, New York.
159 *Dry Iodin Catgut. A. V. Moschcowitz, New York.

159. Dry Iodin Catgut.—Ordinary catgut, just as it is bought from the dealers, is wound onto the well-known glass spools, in a single layer, and fastened at both ends, so as to prevent unravelling. It is then placed for five days in a 5 per cent. alcoholic solution of iodin in a tightly closed vessel (museum jar). On removal it is spread out on a sterile towel, covered by another sterile towel to faciliate drying, and is finally kept in a sterile container. Moschcowitz has proved to his own satisfaction, clinically as well as experimentally, that this dry iodin catgut is absolutely sterile. It is impossible to infect it by ordinary means. Its imbibition with iodin is not sufficient to act as an irritant on the tissues. Its tensile strength is superior to catgut prepared by other methods, and it is absorbed only after it has served the purposes for which it was intended.

Denver Medical Times and Utah Medical Journal

January

160 Case of Subglenoid Dislocation of the Shoulder (Erect Type), Avulsion of the Arm. M. E. Preston, Denver.
161 A Case of Strangulated Hernia. C. B. Dyde, Greeley, Colo.
162 Pericardium Penetrated by Needle. G. W. Miel, Denver.
163 A Tuberculous Muscle Tumor. F. C. Buchtel, Denver.
164 Some Passing Practices and Better Methods. B. O. Adams, Pueblo, Colo.
165 New Spinal Needle. C. G. Parsons, Denver.
166 Delayed Union of Fractured Limbs. H. G. Wetherill, Denver.
167 Repair of Fractures. G. F. Roehrig, Denver.
168 Diagnosis of Ureteral Problems. C. E. Tennant, Denver.
169 The Surgeon vs. the Physician. J. M. DeWeese, Denver.
170 Is Syphilis a Contagious Disease? F. Clift, Salt Lake City, Utah.
171 The Oral Hygiene Movement. E. C. Fairweather, Salt Lake City, Utah.

Memphis Medical Monthly

November

172 *Bacterial Vaccines a Factor in Therapeutics. W. Litterer, Nashville.
173 Injection Treatment of Infected Joints. M. G. Thompson, Hot Springs, Ark.
174 *The After-Care of Anterior Poliomyelitis. W. C. Campbell, Memphis.
175 Poliomyelitis. W. J. Wadlington, Memphis.

172 and 173. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2007.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 31

1 *Hyperchlorhydria and Its Complications. W. Russell.
2 *Distribution of Appendicitis, and Its Relation to Diet. O. T. Williams.
3 Clinical Study of Chronic Movable Kidney. P. Hicks.
4 *Use of Old Tuberculin Ointment in Diagnosis and Treatment of Lupus Vulgaris. A. Verge.
5 Cancer of the Breast. W. Mitchell.
6 *Cleft Palate Operations. T. S. Kirk.
7 A Case of Dwarfism. A. A. Jubb.

1. Hyperchlorhydria.—Russell summarizes the position by saying that if chronic gastric and duodenal ulcer be excluded, the question of operation depends on, first, the determination of the position of the inferior border of the stomach to the pyloric outlet; and second, on the prospect of being able to restore the sagged lower border. The first of these conditions is, in his experience, easy of attainment; the second depends on there being no natural or acquired barrier to the passage of food through the pylorus or duodenum. On the accuracy of the answer to this last problem depends the accuracy of the prognosis, and it will determine the important question whether it is wise or not to try to restore a proper relation of stomach axis to outlet. It is, however, clearly stated by Russell, that many cases are most amenable to suitable medical treatment, but the attempt to cure all cases of ptosis—either partial or complete—can only end in loss of prestige to the physician. Physical laws hold here as elsewhere; and there are physical barriers to the emptying of some stomachs by the natural outlet—it is so impossible that it is simply fatuous to try to bring it about. Accuracy of diagnosis is not unattainable and on such accuracy or inaccuracy the physician's prestige naturally depends. If he attempts to cure what correct diagnosis would tell him he cannot cure, and the patient is driven by force of his misery into the hands of the willing operator, only one result can follow—namely, discredit to himself and the art he professes.

2. **Distribution of Appendicitis.**—A study of statistics has convinced Williams that appendicitis has a markedly different incidence in various countries, and that this different incidence may be largely a question of diet. Statistics show that where there is a large meat-eating population, appendicitis is a common disease, whereas in those countries where little meat is eaten, appendicitis is rare, if not almost unknown. There is no doubt that apart from improved diagnosis, appendicitis has greatly increased in the British Isles in the last few decades. Very little evidence has so far been advanced in explanation of this. The greatest change in the diet of the people has undoubtedly been the marked increase in meat eating. With the amount of foreign meat and canned food the poorer classes even are now able to supply themselves in fair quantity with meat of varying kinds, more particularly mutton. The fat of meat, more particularly that of mutton and beef, is characterized by the small amount of unsaturated fatty acid it contains. That the fat in the food determines the nature of the fat in the tissues is well known. From the clinical and chemical work quoted by Williams, it would seem that this factor determines the nature of the soaps to be found in the wall of the intestinal tract (probably as a manifestation of their excretion), and when these soaps are the calcium soaps of saturated fatty acids, there is usually some evidence of disease, either a mucous colitis or an intestinal lithiasis. In appendicitis, with which these two conditions are clinically associated, there is the same occurrence of these calcium soaps in the wall or in the lumen. In Williams' opinion, therefore, there is some evidence to connect the nature of the fat in the food with the incidence of the disease.

4. **Old Tuberculin Ointment in Lupus.**—As a means of diagnosis, Verge regards the application of tuberculin ointment of undoubted value. Numerous control tests were made by him in many other forms of skin diseases, such as psoriasis, lichen planus, sycosis, various forms of syphilis, dermatitis seborrheica, eczema, etc. In none of these did the typical reaction occur in the lesion, and the Moro reaction in the surrounding healthy skin was entirely absent. Therefore he thinks it may be fairly claimed to be a specific reaction occurring only in lupus. Several cases of doubtful diagnosis were cleared up, and so useful has the method proved that it is now employed in the skin department of the Royal Infirmary wherever there is any doubt as to the lesion not being lupus.

6. **Cleft Palate Operations.**—Kirk has used a continuous suture (No. 1 or 2 silkworm gut) in cleft palate operations with satisfactory results during the last three years. The operation he performs is the ordinary one with mucoperiosteal flaps in the case of the hard palate, and in the soft palate the latter is freed from the posterior margin of the bony palate and its muscles are divided. Apart from the ultimate good results obtained, he says that it will be found that this continuous suture can be inserted more rapidly and easily than the interrupted one, and that the necessity for great care to insert the stitches exactly opposite each other and to tie the sutures with the correct amount of tension is obviated. The ease and rapidity of operation makes the operation less serious, and it can easily be done when the child is 18 months old. The amount of tension to be put on this suture must be sufficient, after it has been put in and before it is finally tied, to prevent the escape of any bubbles from the nose to the mouth in any part of the line of suture, when the patient is breathing quietly. The suture is put in close to the edges of the flap, only taking up enough tissue to give a firm hold and not enough to invert the margins. The suturing is most easily done from before backward. The form of needle Kirk uses is a small Durham's cleft-palate needle, bent at a right angle to the right, and he inserts it from below on the right side and from above on the left side, usually rethreading before each introduction. Only about ½ inch of the silkworm gut should be passed through the eye of the needle, as the gut is apt to get frayed by the constant threading and unthreading. The suture can be left in for ten days or longer. He claims for a continuous suture that it gets rid of two of the causes of failure of union in cleft palate operations, namely, (1) imperfect apposition of the flap edges; (2) necrosis of the flap edges from stitch pressure; and that it considerably shortens the operation, thus materially diminishing the risk.

Lancet, London

December 31

8 Obesity and Certain Changes of Metabolism. O. Rozenraad.
9 *Simple Serodiagnosis for Tuberculosis: a Method of Obtaining an Immunity Index. V. B. Nesfield.
10 Clinical Aspects of Juvenile General Paralysis. J. J. Abraham.

9. **Serodiagnosis of Tuberculosis.**—With a view to discovering traces of immune substance in the serum of tuberculosis patients, Nesfield carried out a series of tests, taking as his basis the fact that the immune body combines with its specific bacterium or toxin, and that this bacterium-immune compound unites with complement. It is the principle employed by Wassermann for the diagnosis of syphilis. The procedure is described fully.

Australian Medical Journal, Melbourne

October

11 Acidosis and Acid Intoxication in Children. E. R. White.
12 Acetonuria and Acidosis. A. C. H. Rothera.
13 Sporadic Cerebrospinal Meningitis. M. Williams and R. Fowler.
14 Serotherapy of Epidemic Cerebrospinal Meningitis. G. A. Paton.
15 Brachial Neuritis Caused by Pressure of First Rib. T. Murphy.
16 Direct Examination of the Larynx, Trachea, Bronchi and Esophagus. J. Murphy.
17 Quinsy. T. K. Hamilton.
18 Hemorrhagic Conjunctivitis. M. A. Schalit.
19 Hemorrhagic Mole. W. A. Wood.
20 Hemorrhagic Glossitis. R. A. Stirling.

Dublin Journal of Medical Sciences

December

21 Physiologic Effects of Alcohol. W. H. Thompson.
22 Tendencies of Modern Research in Veterinary and Human Medicine. E. J. McWeeney.

British Journal of Children's Diseases, London

December

23 Gangrene of Leg Following Diphtheria. J. D. Rolleston.
24 Chloroma. F. Tresilian.
25 Vaccine Therapy of Acute Infective Osteomyelitis. A. G. L. Reade.

Journal of Obstetrics and Gynecology of the British Empire, London

December

26 *Intraperitoneal Hemorrhage in Cases of Fibromyomata of the Uterus. A. J. Wallace.
27 *Torsion of the Fallopian Tube as a Factor in the Etiology of Hematosalpinx Apart from Extrauterine Pregnancy. A. L. McIlroy.
28 *Treatment of Eclampsia. J. W. Ballantyne.

26. **Intraperitoneal Hemorrhage.**—Wallace divides these cases into three classes: (1) the acute, in which the shedding of a large amount of blood is followed by a severe peritoneal crisis and general collapse; (2) the subacute or chronic, in which small or very moderate amounts of blood are shed at intervals, evidenced by mild signs of peritoneal disturbance of short duration, or by advancing anemia that is not explained by external losses or by general disease; (3) cases in which intraperitoneal bleeding occurs without evidence of its existence. In such cases the bleeding may have been pro-

voked by some exertion on the part of the patient. He reports seventeen cases in which the patients were submitted to operation. Death occurred in six cases—a mortality rate of 35.29 per cent.

27. **Torsion of the Fallopian Tube.**—The conclusions to be drawn from McIlroy's paper are that there is no one definite cause for the rotation of the pedicle, but that when torsion does take place followed by strangulation, there is an effusion of blood into the tissues and cavities of the organ or tumor involved. We may take it as proved in the majority of cases of hematosalpinx apart from ectopic pregnancy, that the cause is to be looked for in a torsion of the tube, as a rule at the uterine end. Predisposing causes such as congestive conditions, weakness of the vessel walls and tumors of the tube are to be taken into account. The exciting cause of the rotation may be found in the mobility of the tube in conjunction with increased intra-abdominal pressure. Peristaltic action of the lower bowel has undoubtedly some influence in favoring axial rotation. That torsion should occur in a perfectly healthy tube must be of rare occurrence, although histologic examination of series of tubes in the various stages of fetal development shows us that flexions of these organs are frequently present. The direction of the torsion and the number of twists are of little importance clinically, the degree of strangulation is what should be looked for on examination of the tube.

28. **Treatment of Eclampsia.**—For six years (1905-1910) Ballantyne has acted as physician in charge of the Edinburgh Royal Maternity Hospital during the autumn quarter, and in these eighteen months 2,214 patients were under his care. Thirty-eight of the patients suffered from eclampsia, or 1.7 per cent.; and five died, giving a maternal mortality of 13 per cent. During the autumn quarters of 1905, 1906 and 1907, there were twelve cases of eclampsia with three maternal deaths, or a mortality of 25 per cent.; while during the corresponding quarters of 1908, 1909 and 1910, there were twenty-six cases of eclampsia with two maternal deaths, a mortality of 7.6 per cent. The treatment employed in the latter period of time differed very markedly from that in vogue in the former. During the autumn quarters of 1905-1907, Ballantyne was still trusting in some measure to rapid emptying of the uterus, while in the corresponding quarters of 1908-1910, labor was hardly at all expedited. In the former years the maternal mortality was 25 per cent., in the latter it was only 7.6 per cent.; in the former years the fetal and infantile mortality was 75 per cent., and in the latter it was 42 per cent. Whether the eclampsia develops during pregnancy, during labor, or in the puerperium, Ballantyne orders venesection, transfusion with saline solution into the vein, washing out of the stomach with bicarbonate of soda solution, the introduction into the stomach of a large dose of magnesium sulphate, the use of a copious enema of soap and water and castor oil, and the hot pack. Obstetric interference has been put more and more into a secondary position.

Clinical Journal, London

December 14

29 Abortion. G. E. Herman.
30 Tuberculin Dispensaries and Sanatoria. A. M. Fraser.

December 21

31 Tuberculosis and Its Prevention. J. E. Squire.
32 Lymphadenitis. H. A. T. Fairbank.

Journal of Tropical Medicine and Hygiene, London

December 15

33 Recent Progress in Antityphoid Inoculation. R. H. Fox.
34 Growth of the Fungus of Tinea Imbricata on Artificial Media. A. Castellani.
35 Yaws. A. B. Duprey.

Medical Press and Circular, London

December 21

36 Primary Chronic Nephritis in Children. A. B. Marfan.
37 Fringes of the Cancer Problem. W. S. Handley.
38 Modern Ideas on the Pathology of Syphilis. W. D. Emery.
39 Tonsillar Abscess: a Historical Note. J. Knott.

Journal of Hygiene, London

November

40 Reports on Plague Investigation in India. M. Greenwood and S. Rowland.

Annales de Médecine et Chirurgie Infantiles, Paris

December 1, XIV, No. 23, pp. 725-760

41 Curable Forms of Acute Tuberculosis in Children. Avíragnet and L. Tixier.
42 *Index of Child's Physical Development. (Les divers indices numériques d'appréciation clinique de la robusticité chez l'enfant.) E. Gaujoux.
43 Perforated Duodenal Ulcer in Girl of 14. H. Bichat.

42. **Index of Child's Physical Development.**—Gaujoux thinks that a reliable estimate of the child's robustness can be obtained by dividing the weight by the length, using the metric system. The average normal weight at birth, 3 kg., divided by the average length, 50 cm., gives the index as 0.06 at birth. At 1 month, 3.75 kg. divided by 54 cm. equals 0.069; at 1 year, 9 kg. divided by 71 cm. equals 0.12; at the age of 5, 15 kg. divided by 100 cm. equals 0.15; at 10 years, 25.5 kg. divided by 130 cm. equals 0.19, and at 14, 35 kg. divided by 154 cm. equals 0.23. The index thus regularly increases with the child's growth, and he gives the index computed for each year of a child's life by this and other methods; no other formula, he says, seems to give such an instructive insight into the child's actual physical condition.

Bulletins de la Société de Pédiatrie, Paris

November, XII, No. 8, pp. 417-500

44 *Landry's Paralysis in Course of Epidemic Poliomyelitis. A. Netter.
45 Positive Wassermann Reaction in Rachitis. (Rachitisme syphilitique et séro-diagnostic.) H. Dufour and A. Huber.
46 Senile Type of Dwarf Growth Possibly of Suprarenal Origin. (Progeria de Gilford.) G. Variot and Pironneau.
47 Hydrocephalus as Sequel of Acute Meningitis. (Rapports de l'hydrocéphalie et des méningites aigues.) P. Harvier and G. Schreiber.
48 Syphilis as Common Cause of Adenoid Vegetations. H. Abrand.
49 *Serodiagnosis of Whooping-Cough by Hemolytic Test. (Diagnostic de la coqueluche fruste par la réaction de Bordet-Gengou.) Delcourt.
50 *Gastro-Intestinal Disturbances in Children from Standpoint of Tropical Pathology. J. L. Duenas.

44. **Epidemic Poliomyelitis.**—Netter states that recently he has encountered a number of cases of acute poliomyelitis in Paris, in which the children developed paralysis of the Landry type. He admits that the virus is transmitted generally in the nasopharyngeal secretions, and that healthy germ-carriers or those with only slight symptoms of the infection are mainly instrumental in carrying contagion. Prophylaxis, he says, should be based on these apparently well-established facts, with isolation of the sick and exclusion from school of children from families in which a case has occurred. The nasal passages should be disinfected. Other children in the family and other inmates of the house are rarely affected, although a few cases are known in which from four to seven children in the family developed the disease, and not always in unhygienic homes.

49. **Hemolytic Test for Suspected Whooping-Cough.**—Delcourt applied the complement-deviation test in a recent epidemic of whooping-cough and was able to reveal by this means a number of cases so mild that the infection was not suspected. He is confident that such cases of masked pertussis are common in children and adults, and that serodiagnosis may be important from the standpoint of prophylaxis.

50. **Gastro-Intestinal Disturbances in Children in Cuba.**—Duenas remarks that the influence of a tropical climate on children is shown most decidedly in Cuba by the frequency of gastro-intestinal disturbances even more than by the mortality. The long persistence of the heat is responsible for their development both in adults and children and the children seem to be born with a predisposition for various gastro-intestinal disturbances. At Havana are encountered, he says, all forms of digestive affections known and described by the classic writers of all countries. The abundance and toxicity of intestinal putrefactions, in connection with the enhancing of the virulence of infectious germs by the heat, compel especially energetic therapeutic measures.

Lyon Chirurgical, Lyons

December, IV, No. 6, pp. 513-612

51 Malignant Lipoma. (Classification de certaines tumeurs malignes.) L. Bériel.
52 *State of Other Kidney in Renal Tuberculosis. H. Fayol.

52. **Condition of Kidneys in Renal Tuberculosis.**—Fayol concludes from his research on this subject and clinical experience that incipient tuberculous lesions in the other kidney, but with normal functioning, permit the removal of the first kidney with pronounced tuberculosis. Delayed or refused operation is inevitably fatal, while, on the other hand, incipient lesions in the other kidney seem to be arrested by nephrectomy for a long time at least. Nonspecific lesions, albuminuria, etc., do not contra-indicate nephrectomy unless the albuminuria is excessive and accompanied by numerous tube-casts; signs of insufficiency of the kidneys indicate that parenchymatous nephritis is already installed. When one kidney is unmistakably, irreparably tuberculous and the other kidney is functioning badly, nephrostomy or exploratory nephrotomy should be done and the patient supervised for four or six weeks. During this time the true functioning of both kidneys can be estimated and secondary nephrectomy may become possible; in any event the primary nephrotomy is liable to give relief and improve conditions for the major operation later. With advanced tuberculous lesions in both kidneys even an exploratory nephrotomy may entail fatal anuria. At the last international surgical congress the mortality of nephrectomy after functional tests of the other kidney was reported as averaging now only 2.85 per cent., and Albarran's mortality is below 2 per cent.

Presse Médicale, Paris

December 17, XVIII, No. 101, pp. 945-960

53 *Idiopathic Curvature of the Neck of the Femur in Adolescents. (Les fausses coxalgies.) M. Savariaud.
54 Radiographic Diagnosis of Oxycephaly and Other Conditions with Excessive Pressure within the Skull. M. Bertolotti.

December 21, No. 102, pp. 961-968

55 Removal of Certain Bladder Tumors by Natural Passages. G. Marion.

December 24, No. 103, pp. 969-976

56 *Serotherapy of Typhoid Fever. A. Rodet and Lagriffoul.

December 28, No. 104, pp. 977-984

57 Serodiagnosis of Pott's Disease. (Réactions du liquide céphalorachidien au cours de la pachyméningite Pottique.) J. A. Sicard, Foix and Salin.
58 Technic for Injection of Salvarsan. P. Ravaut.
59 Technic for Preparing Albumin Milk. (Le lait albumineux.) G. Schreiber.

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Revue de Chirurgie, Paris

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orrhage was internal. Such complications should be prevented by not letting the drain reach in far enough to touch the artery.

64. **Hypertrophy of the Prostate Often a Suburethral Tumor.**—Marquis reports research on the pathologic anatomy of so-called hypertrophy of the prostate, which confirms the clinical conclusions to the effect that in the majority of cases the apparent enlargement of the prostate is in reality an extraprostatic, suburethral reaction to traumatisms of the region in the course of micturition or to infections by way of the urine or both. Comparison of the findings in 949 prostatectomies on record, shows, he says, that Freyer's method of enucleating the benign suburethral tumor, paying no attention to its source of origin, gives better results than perineal prostatectomy. The latter has a record of orchitis in nearly 25 per cent., of perineal fistula for more than three months in about 13 per cent., of incontinence in 10 per cent., and of complete retention or rectal fistula in 6 per cent., while none of these complications and little, if any, impairment of the sexual function occur with the transvesical technic except orchitis in 1 per cent. and retention in less than this proportion. The greatest argument in favor of the transvesical route, however, is that some of the most ardent advocates of the perineal route, a few years ago, seem now to have abandoned it completely.

Semaine Médicale, Paris

December 21, XXX, No. 51, pp. 595-608

65 Viscosity of the Blood and Its Clinical Significance. (Valeur clinique de la viscosité du sang.) L. Cheinisse.

December 28, No. 52, pp. 609-616

66 *Salpingitis and Laminaria Tents. R. de Bovis.

66. **Salpingitis in Relation to the Use of Tents.**—De Bovis discusses a recent communication on the frequency of evidences of salpingitis in women who have had the os uteri dilated with tents preliminary to curetting. He does not believe that the tents introduced germs, but that by obstructing the outlet to the uterus they induced stasis which favored the development of otherwise harmless germs already present, the germs rapidly acquiring virulence and setting up inflammation in the tubes. Amersbach thus found microscopic traces of inflammatory processes in the tubes in 42 per cent. of twenty-six women operated on for tubal sterilization. The inflammation seemed to have been transient and harmless, and even this was absent in the non-puerperal cases, but de Bovis reports a case of pelvic peritonitis evidently resulting from the tent dilatation in a non-puerperal case. There is a possibility of pre-existing gonorrheal inflammation in this case, but no one can guarantee against this in any case. On the whole, it is much safer, he says, to refrain from the use of tents.

Archiv für Gynaekologie, Berlin

XCII, No. 2, pp. 279-605. Last indexed Dec. 17, 1910, p. 2187

67 Etiology of Hematoma in Vulva or Vagina. C. Wimpfheimer.
68 Inflammatory Processes in the Adnexa. (700 Fälle von entzündlichen
69 Dermoid Cyst Boxer.
70 *Pregnancy Li (Zur Physiologie und Pathologie der Schwangerschaft.) G. Schickele.
71 *Heart Defects and Pregnancy. (Die Prognose von Schwangerschaft, Geburt und Wochenbett bei Herzfehlern.) R. T. Jaschke.
72 *Eclampsia Possibly an Anaphylaxis from Fetal Albumin. J. Thies.
73 Phlegmasia Alba Dolens. (Entwicklung des Begriffes und die Bedeutung der Phlegmasia alba dolens.) P. Kroemer.
74 Case of Peritoneal Pregnancy. J. F. M. Hammacher.

70. **Eclampsia.**—Schickele has become convinced by his clinical experience and study of the literature that eclampsia occurs in various forms and degrees, ranging from the typical manifestations with convulsions, through the atypical form without convulsions and the severe, sometimes fatal, uncontrollable vomiting of pregnancy, to a condition in which there may be only a few symptoms showing that something is wrong. These symptoms are peculiarly violent, including salivation, exanthems, peripheral neuritis, vomiting, disturbances in vision, "pregnancy disturbances," etc. Jaundice may occur alone or with any of the above conditions. The liver may be specifically pathologic without any of these symptoms. It is probable, he thinks, that the changes in the liver and other organs in eclampsia are the result of an intravital autolysis of the liver due to some still unknown eclampsia toxin. Chemical research on urine, etc., has not afforded any bases for better knowledge of the nature of eclampsia, to date.

71. **Heart Defects and Pregnancy.**—Jaschke analyzes the experiences with 1,548 women with heart defects delivered at von Rosthorn's clinic at Vienna; this was 1.47 per cent. of the total 37,014 deliveries during the last ten years. On the basis of this extensive material, his conclusions are more favorable than those of most writers on the outcome of a pregnancy with a pre-existing heart defect. He even declares that a heart defect should be regarded and estimated during a pregnancy exactly the same as outside of a pregnancy. The mortality was from 0.32 to 0.39 per cent., and in all the fatal cases the heart defect was exceptionally serious or combined with myocarditis. In seven-eighths of the cases the pregnancy proceeded to normal delivery at term. In only 4 per cent. was there spontaneous abortion, and spontaneous premature delivery in only 4.5 per cent. No special influence from the nature of the valvular defect was apparent, but failing compensation favors premature interruption of the pregnancy. In some cases the women seem to become accustomed to the heart defect with recurring pregnancies. Artificial interruption of the pregnancy was necessary in 1 per cent. of the cases on account of severe failing compensation. Functional tests of the heart decide the question as to whether the patient can stand the strain of delivery or not, especially Katzenstein's test (described in The Journal, July 9, 1904, page 159), and the Koranyi test (described Oct. 2, 1909, page 1141). In the severer cases operative sterilization of the woman may be advisable if the condition renders further pregnancies too dangerous. An undisturbed course of the pregnancy may be counted on in 96 per cent. of all cases; danger need be feared, as a rule, only when the heart defect is particularly severe, or the myocardium involved, or when there is complicating nephritis. Even with slightly failing compensation the delivery proceeded without disturbance in 98 per cent. of all his cases; there was no special tendency to atony and no special indications—on account of the heart defect—were encountered at any stage of labor. The delivery must be supervised by the obstetrician with exceptional care, however, especially in the period of expulsion in order to act immediately if any procedures become necessary. No operative procedure, he insists, is contra-indicated by the heart defect in itself. Scrupulous asepsis is more imperative in case of heart defect than under other conditions, as puerperal infection has special dangers for such patients. During the puerperium, the woman with a heart defect is not exposed to any more dangers on this account than the healthy, but she should be kept in bed a little longer to reduce the demands made on the heart. There is nothing to contraindicate breast nursing. Any involvement of the myocardium naturally renders the prognosis graver. Age is also an unfavorable factor, as likewise the depressing influences of a large number of pregnancies occurring at short intervals.

72. **Etiology of Eclampsia.**—Thies injected rabbits with serum from fetuses and found that the gravid animals reacted with a kind of anaphylactic syndrome suggesting the symptoms of eclampsia. The same effect was obtained also to a very slight degree and much more slowly in the non-gravid animals. He thinks that the results of his research suggest that eclampsia is a kind of anaphylaxis induced in the maternal organism by the alien albuminous substances in the serum of the fetus.

Archiv für Verdauungs-Krankheiten, Berlin

December, XVI, No. 6, pp. 627-804

75 Ferments in Testing Gastric Functioning. (Experimentell-vergleichende Untersuchungen über den klinischen Wert der neueren Magenfermentproben und die Wesenseinheit von Lab und Pepsin.) P. Cohnheim.
76 Secreting Cells in Small Intestine. (Ueber die Panethschen Zellen des Dünndarmes.) L. Fischl.
77 Amebic Dysentery. E. Axisa.
78 Favorable Influence of Hydrogen Dioxid on Hyperchlorhydria. (Klinische und experimentelle Erfahrungen über den Einfluss des Wasserstoffsuperoxyds auf Hyperchlorhydrien und auf die Magensekretion.) F. Poly.
79 Palpation of Appendix. N. M. Rudnitzki.
80 Digestion of Cellulose. (Zelluloseverdauung bei dem Menschen.) F. Schilling.

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trouble in the uterus after the intra-uterine intervention, and necropsy in both revealed the uterus in good physiologic condition; the puerperal infection had penetrated the walls and set up fatal sepsis, leaving the uterus unmolested. Most of the various cases reported are instructive, because the necropsy findings are compared with the clinical records and clinical impressions, and Schickele urges others to do this at every opportunity as the best means to obtain light on this important subject of puerperal infection.

Berliner klinische Wochenschrift

December 12, XLVII, No. 50, pp. 2277-2328

89 *Treatment and Diagnosis of Progressive Paralysis. K. Bonhoeffer.
90 *Tardy Reaction After Salvarsan. Goldbach.
91 *Eventual By-Effects on the Cranial Nerves from Salvarsan. J. H. Rille.
92 *Salvarsan in Therapeutics. (Praktisches und Theoretisches vom Arsenobenzol Ehrlich-Hata 606.) K. Touton. Commenced in No. 49.
93 Importance of Salt for Metabolism. (Bedeutung des Kochsalzes für den Stoffwechsel.) H. Strauss.
94 Epidemic Poliomyelitis. (Neuere Erfahrungen über die akute
95 *Ur r. (Verwertung des E. Salkowski.
96 *Dr and Hydrocephalus. B. Heile.
97 Otosclerosis. G. Brühl.
98 Theory of Anaphylaxis. E. Friedberger.

89. **Progressive Paralysis.**—Bonhoeffer does not think that the recent achievements in serology and the introduction of salvarsan have been of much service in the diagnosis and treatment of progressive paralysis. In fully 15 per cent. of the cases, he says, we may anticipate remissions in the course of the disease during the early stages. A patient entering on a phase of remission should not be reported as "recovered" under the drug that he happened to be taking at the time. If the weight begins to increase, a suspicion of a remittent phase is justified. He further emphasizes the point that true syphilitic processes may coexist with the changes responsible for the paralysis, and consequently benefit will follow as the former subside under specific antisyphilitic measures.

90. **Tardy Reaction to Salvarsan.**—Goldbach reports that at the clinic for cutaneous skin diseases in charge of Lesser, several cases have been observed in which an eruption, angina and gastro-intestinal disturbances developed in from seven to ten days after injection of salvarsan for syphilis. The phenomena were observed, together with an extremely violent reaction at the point of injection, the whole picture suggesting a toxic syndrome due to the arsenic or to the production of antibodies in consequence of the medication.

91. **By-Effects of Salvarsan Involving the Cranial Nerves.**—Rille states that recurrence has been observed in fourteen of the forty syphilitics kept under observation since treatment with salvarsan. He further reports three cases in which patients with recent infection developed severe symptoms on the part of the cranial nerves. In the first, deafness came on four weeks after the injection, facial paralysis two weeks later, and choked disc a week and a half later. The patient was a robust girl of 21. The second patient was likewise a previously healthy girl of 18, infected with syphilis about four months before the injection of the drug. Nearly eight weeks afterward headache and vertigo developed, followed three weeks later by right facial paralysis and after another week by bilateral optic neuritis and right fourth nerve paralysis. In the third case a blacksmith became deaf nearly thirteen weeks after the injection, given three months after primary infection. Only one of these patients had recovered entirely at date of writing. Rille adds that complications of this kind have never been observed after mercurial treatment, but he does not venture to decide whether they are manifestations of the Herxheimer reaction or the result of an especial affinity of the drug for the nerve tissue.

92. **Action of Salvarsan.**—Touton explains the failure of salvarsan to kill all the spirochetes as due to the fact that it is unable to reach all of them. In order for it to display its destructive action on the spirochetes, they must be mobilized and brought out from their lurking places so that the drug can act on them. He suggests that this might possibly be accomplished by preliminary treatment with some drug which would mobilize the spirochetes, seeking them out and driving them out into regions accessible for the salvarsan. This may be done by means of the ordinary physical measures, exercise, massage, baths and sweating procedures, or they may be supplemented by iodids. He regards the intravenous technic as best for administration of the salvarsan, and reports some cases in which it seemed to display therapeutic action on spirochetes other than the pallida.

95. **Urine Findings in Diagnosis of Cancer.**—Salkowski and Kojo have worked out a simple method for determination of the nitrogen precipitated by salts of the heavy metals in relation to the total nitrogen output. The average in the urine of ten healthy persons was 1.22 per cent., while in ten cancer patients it averaged 3.03 per cent., the maximum being 4.62 per cent. The minimum, 2.15 per cent., was never reached in healthy urine. These facts are suggestive, but further experience is needed to determine whether the different findings are pathognomonic of malignant disease. The technic is simple; the filtrate corresponding to 100 c.c. of urine is neutralized with acetic acid and precipitated with lead subacetate; the precipitate is then quantitatively collected, rinsed and its nitrogen content ascertained. The figure representing this is then compared with the total nitrogen from 100 c.c. of urine to show the percentage of the latter represented by the former. The phosphoric and sulphuric acids in the urine must first be removed by the ordinary barium-chlorid process. Zinc chlorid or zinc sulphate can also be used for determination of the nitrogen precipitation with or without preliminary removal of the phosphoric acid with calcium chlorid or hydrate.

96. **Surgical Treatment of Spina Bifida with Hydrocephalus.**—Heile reported last year his attempt to ensure permanent drainage of the cerebrospinal fluid into the abdomen in a case of this kind. He sutured a loop of small intestine, drawn out near the spina bifida, to the open dural sac, and the drain answered its purpose perfectly, but so much fluid was thus drained away so abruptly that the child succumbed to this and the effects of the laparotomy necessary to draw out the bowel. To avoid these drawbacks he now drains the fluid into the abdomen by means of a wick of six silk threads introduced into the dural sac at one end and carried through a subcutaneous passage into the side of the abdominal cavity, into which it protrudes near the costal arch. The minute incisions rapidly healed in the case reported. The 2-days-old infant was kept lying on his back with the pelvis raised for a time to prevent too rapid drainage. The child has no further signs to date of the spina bifida and hydrocephalus for which the operation was done. The various steps of the operation are shown in three illustrations.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 1-2, pp. 1-208. Last indexed Dec. 24, 1910, p. 2274

99 The Heart Sounds and the String Galvanometer. (Aufzeichnung von Herztönen mit dem Einthoven'schen Saitengalvanometer und Untersuchungen über Galopprhythmus.) W. v. Wyss.
100 Lymphosarcomatosis and a Positive Wassermann Reaction. F. Trembur.
101 Prevention and Treatment of Catarrh. W. Ebstein.
102 Improved Spirometer. (Zur spirometrischen Methodik.) R. Siebeck.
103 Blood and Heart Findings with Nitrobenzol Intoxication. R. Massini.
104 Hemoglobinuria with Muscular Paralysis. (Eigenartiger mit Muskellähmungen verbundenen Fall von Hämoglobinurie.) F. Meyer-Betz.
105 The Nucleus Test of Digestive Processes. (Die Grundlage der Ad. Schmidt'schen Kernprobe.) F. W. Strauch.
106 Internal Drug Antisepsis. (Zur Frage der inneren Desinfektion.) A. Knick and J. Pringsheim.
107 Action of Albumin Bodies and Albuminoids on Coagulation of Blood. (Einwirkung von eiweissartigen und Eiweisskörpern auf die Gerinnbarkeit des Blutes.) H. Grau.
108 f Gastric Cancer. (Bedeutung der ür die Diagnose des Magencar-
109 Velocity of Blood Stream in Anemia. (Zur Frage der Blutgeschwindigkeit bei Anämie.) V. Weizsäcker.

Deutsche medizinische Wochenschrift, Berlin

December 22, XXXVI, No. 51, pp. 2369-2416

110 *Obstetric Version. (Indikationen und Technik der Wendung.) K. Balsch.
111 Diabetic Lipemia. G. Klemperer.
112 Salvarsan in Syphilis. J. Jadassohn.
113 Action of Salvarsan on Spirochetes in Mouth. P. H. Gerber.
114 Emotional Instability of Blood-Pressure. (Psychogene Labilität des Blutdruckes und ihre Bedeutung in der Praxis.) P. Schrumpf.

81 Membranous Enteritis in Typhoid Fever. N. Ortner.
82 *Pain in Diagnosis of Gastric Cancer. (Zur Diagnose des Magenkarzinoms mit besonderem Hinweis auf das Schmerzsymptom.) B. Erlanger.

82. **Pain in Chest or Shoulder as Early Sign of Gastric Cancer.**—Erlanger describes five cases in which attacks of pain, diagnosed in some instances as intercostal neuralgia, were the only or the principal sign of an unsuspected gastric cancer. The first patient was an elderly man whose violent pains in the left side of the thorax were accompanied by the tender points characteristic of intercostal neuralgia. The pain occurred at first spasmodically, but later became more continuous and was increased by movements of the body. The patient was sometimes kept awake at night by the pains, and began to grow thin; no improvement followed courses at various sanatoriums for the supposed neuralgia, but tests of stomach functioning revealed a lack of free hydrochloric acid and abnormally low total acidity. The stomach tube encountered a slight obstruction near the cardia, and the possibility of a neoplasm at this point was suggested, but the pains then subsided and did not recur under bed rest. The suspected cancer made itself manifest a few months later. There was evidently a carcinomatous lymphangitis in this case with infiltration of the paravertebral tissue, inducing the neuralgiform pains. The second patient was a man of 37, healthy until slight gastric disturbances were noted, and at one time an attack of pain in back and upper abdomen so severe that he consulted a physician who prescribed codein. The stool was black one day about this time. The "neuralgia" returned occasionally and the patient was put on a special diet. Not long after this a very severe attack of pain came on one night, leaving the abdomen tender. As the attacks of pain kept recurring and with great intensity, the patient consulted several physicians, but none made any special diagnosis, until Erlanger tested the stomach functioning, finding no trace of free hydrochloric acid. Necropsy later revealed a gastric carcinoma that had developed on the basis of an old gastric ulcer. During the clinical study of the case there had been nothing to suggest malignant disease except the lack of free hydrochloric acid. The clinical picture had been solely attacks of pain resembling in some respects gallstone colic. In the third case an apparently healthy man of 32 developed symptoms of gastric ulcer, subsiding spontaneously, but returning about a year later for a brief period. Some time after this he had severe pains in the back, which were most severe when reclining. The pain was not continuous, but at times so severe that the man screamed. The attacks generally lasted an hour or two, and sometimes required morphin. The pains radiated to the shoulders and leg at times, but there were no signs of a tumor; the patient could not eat meat and had no appetite, while the increasing weakness and depression suggested malignant disease, but there were no signs to localize it except one enlarged gland in the left supraclavicular region. Necropsy disclosed a carcinoma in the lesser curvature of the stomach extending into the paravertebral tissue. There had never been fever, but sweat crises had been frequent toward the last. In the third case a manifest cancer in the stomach was accompanied by intense pain at times in the back and sacral region. It is assumed that the cancer in this case has also spread to the posterior wall of the abdomen, or there is metastasis in the tissues adjoining the spine, but the patient is still living. The fifth case is that of a man of 40 whose father and mother had both died of cancer, and a brother has cancer of the rectum. The objective findings suggested benign stenosis of the pylorus on the basis of an old gastric ulcer, especially as the stomach chemistry appeared to be normal. The patient consented to a gastro-enterostomy, but a carcinoma was found at the pylorus with metastasis in the greater omentum. There were no special pains in this case; but the extreme weakness and loss of appetite dominated the clinical picture. Erlanger discusses in conclusion what has been written on the pains with gastric cancer—they are generally described as nothing well defined or characteristic—and reviews the points that differentiate the pain from other causes. The main point is to think of the possibility that the neuralgiform pains may be due to cancerous involvement of the regions innervated by the intercostal, lumbar or sacral nerves.

Beiträge zur Geburtshilfe und Gynäkologie, Leipsic

XVI, No. 1, pp. 1-198. Last indexed Aug. 27, 1910, p. 809

83 Placenta Marginata and Placenta Implanted in the Cornua. (Placenta marginata und Verhalten der Tubenecken in der Schwangerschaft.) H. Bayer.
84 *Cesarean Section for Placenta Implanted Between Body and Cervix. (Isthmusplacenta und Kaiserschnitt.) O. Pankow.
85 The Isthmus of the Uterus. O. Büttner.
86 Pelvis Deformed from Trauma of Articulations. (Ueber [illegible] Lazerationsbecken.) A. Sitzenfrey.
87 Origin of Cystic Tumors in the Ovary. (Herkunft cystischer Gebilde der Ovarien.) G. Schickele.
88 *Hysterectomy for Puerperal Sepsis. (Zur Frage der Exstirpation des septischen Uterus.) G. Schickele.

84. **Cesarean Section for Placenta Implanted Between Body and Cervix.**—Pankow advocates abdominal Cesarean section with placenta prævia, and states that he had no mortality among the twenty-three women treated in this way, while eight died of the forty-nine others, and he is convinced that six might have been saved by prompt abdominal Cesarean section. The children were delivered in good condition in the twenty-three Cesarean section cases, except one who had inhaled amniotic fluid.

88. **Hysterectomy in Puerperal Sepsis.**—The great question, of course, is whether the puerperal septic process is limited to the uterus or not. The only way to learn how to recognize these cases, Schickele affirms, is to examine the uterus after its removal and compare the anatomic changes with the preceding clinical course in every case without fail, striving to obtain premises for certain general conclusions. At necropsies also the anatomic findings in the uterus should be studied and compared with the record of the clinical course. He describes a number of typical cases from his own experience, which demonstrate, among other things, that severe puerperal infection may develop without the uterus itself becoming diseased. The pathogenic germs may penetrate through the intact uterus wall into the general circulation, and general symptoms of sepsis and metastasis are then the first signs of trouble. In this group of cases, hysterectomy would be useless, as the uterus itself is not diseased. High fever for several days suggests a possible progressive inflammatory process inside the uterus, and this suspicion is strengthened by development of symptoms of peritonitis. The indications are especially urgent when there has been some preceding intra-uterine intervention. The vicinity of the uterus should be free from infiltration, and there should be no signs of general infection for the indications in this class of cases to be beyond question. The third category includes the cases in which fever persists after some intra-uterine procedure, and soon afterward chills follow or germs are found in the blood, or both occur together. In these cases the uterus should be removed without delay in the hope of forestalling general infection. If a few days have elapsed before the chills and sepsis develop, then the hysterectomy comes too late, especially if signs of metastasis have manifested themselves in the meanwhile. At the same time, Schickele continues, if the chills and sepsis do not follow the intra-uterine intervention until after several days, with continuous fever in the interim, hysterectomy is indicated without delay in the hope that the mischief may be confined to the uterus, or at least that removal of the primary focus may bring relief. This applies also to cases in which the uterus has been injured. The trend of the times, he believes, is unmistakably toward operative treatment of puerperal fever. One of the cases reported in detail shows the importance of the slightest signs of peritonitis as an indication that the process is spreading beyond the uterus and that in immediate hysterectomy lies the only salvation of the patient. It was not done in this instance, and this lesson was learned from the necropsy findings in this and in some other cases. Another case teaches that signs of severe infection still persisting after manual separation of the placenta are an indication that the process is spreading, but that the immediate removal of the uterine focus may abort it. The general condition is the criterion in puerperal infection almost more than in any other circumstances. In one case of febrile abortion requiring intra-uterine intervention entailing considerable laceration, the general condition was good and the patient rapidly recovered. In two cases with signs of severe general infection in the first week, including swelling of a finger and decubitus, there were no signs of local

trouble in the uterus after the intra-uterine intervention, and necropsy in both revealed the uterus in good physiologic condition; the puerperal infection had penetrated the walls and set up fatal sepsis, leaving the uterus unmolested. Most of the various cases reported are instructive, because the necropsy findings are compared with the clinical records and clinical impressions, and Schickele urges others to do this at every opportunity as the best means to obtain light on this important subject of puerperal infection.

Berliner klinische Wochenschrift

December 12, XLVII, No. 50, pp. 2277-2328

89 *Treatment and Diagnosis of Progressive Paralysis. K. Bonhoeffer.
90 *Tardy Reaction After Salvarsan. Goldbach.
91 *Eventual By-Effects on the Cranial Nerves from Salvarsan. J. H. Rille.
92 *Salvarsan in Therapeutics. (Praktisches und Theoretisches vom Arsenobenzol Ehrlich-Hata 606.) K. Touton. Commenced in No. 49.
93 Importance of Salt for Metabolism. (Bedeutung des Kochsalzes für den Stoffwechsel.) H. Strauss.
94 Epidemic Poliomyelitis. (Neuere Erfahrungen über die akute [illegible]
95 *Ur[illegible] r. (Verwertung des [illegible] E. Salkowski.
96 *Dr[illegible] and Hydrocephalus. [illegible] B. Heile.
97 Otosclerosis. G. Brühl.
98 Theory of Anaphylaxis. E. Friedberger.

89. **Progressive Paralysis.**—Bonhoeffer does not think that the recent achievements in serology and the introduction of salvarsan have been of much service in the diagnosis and treatment of progressive paralysis. In fully 15 per cent. of the cases, he says, we may anticipate remissions in the course of the disease during the early stages. A patient entering on a phase of remission should not be reported as "recovered" under the drug that he happened to be taking at the time. If the weight begins to increase, a suspicion of a remittent phase is justified. He further emphasizes the point that true syphilitic processes may coexist with the changes responsible for the paralysis, and consequently benefit will follow as the former subside under specific antisyphilitic measures.

90. **Tardy Reaction to Salvarsan.**—Goldbach reports that at the clinic for cutaneous skin diseases in charge of Lesser, several cases have been observed in which an eruption, angina and gastro-intestinal disturbances developed in from seven to ten days after injection of salvarsan for syphilis. The phenomena were observed, together with an extremely violent reaction at the point of injection, the whole picture suggesting a toxic syndrome due to the arsenic or to the production of antibodies in consequence of the medication.

91. **By-Effects of Salvarsan Involving the Cranial Nerves.**—Rille states that recurrence has been observed in fourteen of the forty syphilitics kept under observation since treatment with salvarsan. He further reports three cases in which patients with recent infection developed severe symptoms on the part of the cranial nerves. In the first, deafness came on four weeks after the injection, facial paralysis two weeks later, and choked disc a week and a half later. The patient was a robust girl of 21. The second patient was likewise a previously healthy girl of 18, infected with syphilis about four months before the injection of the drug. Nearly eight weeks afterward headache and vertigo developed, followed three weeks later by right facial paralysis and after another week by bilateral optic neuritis and right fourth nerve paralysis. In the third case a blacksmith became deaf nearly thirteen weeks after the injection, given three months after primary infection. Only one of these patients had recovered entirely at date of writing. Rille adds that complications of this kind have never been observed after mercurial treatment, but he does not venture to decide whether they are manifestations of the Herxheimer reaction or the result of an especial affinity of the drug for the nerve tissue.

92. **Action of Salvarsan.**—Touton explains the failure of salvarsan to kill all the spirochetes as due to the fact that it is unable to reach all of them. In order for it to display its destructive action on the spirochetes, they must be mobilized and brought out from their lurking places so that the drug can act on them. He suggests that this might possibly be accomplished by preliminary treatment with some drug which would mobilize the spirochetes, seeking them out and driving them out into regions accessible for the salvarsan. This may be done by means of the ordinary physical measures, exercise, massage, baths and sweating procedures, or they may be supplemented by iodids. He regards the intravenous technic as best for administration of the salvarsan, and reports some cases in which it seemed to display therapeutic action on spirochetes other than the pallida.

95. **Urine Findings in Diagnosis of Cancer.**—Salkowski and Kojo have worked out a simple method for determination of the nitrogen precipitated by salts of the heavy metals in relation to the total nitrogen output. The average in the urine of ten healthy persons was 1.22 per cent., while in ten cancer patients it averaged 3.03 per cent., the maximum being 4.62 per cent. The minimum, 2.15 per cent., was never reached in healthy urine. These facts are suggestive, but further experience is needed to determine whether the different findings are pathognomonic of malignant disease. The technic is simple; the filtrate corresponding to 100 c.c. of urine is neutralized with acetic acid and precipitated with lead subacetate; the precipitate is then quantitatively collected, rinsed and its nitrogen content ascertained. The figure representing this is then compared with the total nitrogen from 100 c.c. of urine to show the percentage of the latter represented by the former. The phosphoric and sulphuric acids in the urine must first be removed by the ordinary barium-chlorid process. Zinc chlorid or zinc sulphate can also be used for determination of the nitrogen precipitation with or without preliminary removal of the phosphoric acid with calcium chlorid or hydrate.

96. **Surgical Treatment of Spina Bifida with Hydrocephalus.**—Heile reported last year his attempt to ensure permanent drainage of the cerebrospinal fluid into the abdomen in a case of this kind. He sutured a loop of small intestine, drawn out near the spina bifida, to the open dural sac, and the drain answered its purpose perfectly, but so much fluid was thus drained away so abruptly that the child succumbed to this and the effects of the laparotomy necessary to draw out the bowel. To avoid these drawbacks he now drains the fluid into the abdomen by means of a wick of six silk threads introduced into the dural sac at one end and carried through a subcutaneous passage into the side of the abdominal cavity, into which it protrudes near the costal arch. The minute incisions rapidly healed in the case reported. The 2-days-old infant was kept lying on his back with the pelvis raised for a time to prevent too rapid drainage. The child has no further signs to date of the spina bifida and hydrocephalus for which the operation was done. The various steps of the operation are shown in three illustrations.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 1-2, pp. 1-208. Last indexed Dec. 24, 1910, p. 2274

99 The Heart Sounds and the String Galvanometer. (Aufzeichnung von Herztönen mit dem Einthoven'schen Saitengalvanometer und Untersuchungen über Galopprhythmus.) W. v. Wyss.
100 Lymphosarcomatosis and a Positive Wassermann Reaction. F. Trembur.
101 Prevention and Treatment of Catarrh. W. Ebstein.
102 Improved Spirometer. (Zur spirometrischen Methodik.) R. Siebeck.
103 Blood and Heart Findings with Nitrobenzol Intoxication. R. Massini.
104 Hemoglobinuria with Muscular Paralysis. (Eigenartiger mit Muskellähmungen verbundenen Fall von Hämoglobinurie.) F. Meyer-Betz.
105 The Nucleus Test of Digestive Processes. (Die Grundlage der Ad. Schmidt'schen Kernprobe.) F. W. Strauch.
106 Internal Drug Antisepsis. (Zur Frage der inneren Desinfektion.) A. Knick and J. Pringsheim.
107 Action of Albumin Bodies and Albuminoids on Coagulation of Blood. (Einwirkung von eiweissartigen und Eiweisskörpern auf die Gerinnbarkeit des Blutes.) H. Grau.
108 [illegible] f Gastric Cancer. (Bedeutung der [illegible] ür die Diagnose des Magencar- [illegible]
109 Velocity of Blood Stream in Anemia. (Zur Frage der Blutgeschwindigkeit bei Anämie.) V. Weizsäcker.

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December 22, XXXVI, No. 51, pp. 2369-2416

110 *Obstetric Version. (Indikationen und Technik der Wendung.) K. Balsch.
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114 Emotional Instability of Blood-Pressure. (Psychogene Labilität des Blutdruckes und ihre Bedeutung in der Praxis.) P. Schrumpf.

115 Cultural Differentiation of Paratyphoid and Enteritis Bacteria. R. Müller.
116 Cholera Not Result of Nitrite [illegible] (Z[illegible] n Theori[illegible]
117 Blood-Co[illegible] (Zur [illegible] A. Kakowski.

110. **Indications and Technic for Version.**—Baisch cites statistics from Döderlein's and other clinics which show that version is applied on an average in about 1.5 per cent. of deliveries and forceps in about 2.4 per cent. In the clinics forceps and version are applied in 4 per cent., that is, in about one-third of all the operative births, while in general practice they are applied in two-thirds of all the operative deliveries. Decapitation and perforation, he declares, amount to 0.8 per cent. of all operative deliveries in the clinic and 0.1 per cent. in general practice. These figures confirm his impression that the mutilating operations are far too rare in private practice, as these alone are harmless for the mother, while the operations which presumably spare the child, but are fraught with danger for the mother, are far too frequent. His statistics show further that the mortality of the children with version amounts to 50 per cent., not including the infants who die soon after birth, which brings the total mortality from version up to 70 per cent. With this imposing mortality of the children with version, we are fully justified, he says, in seeking to restrict its application in favor of perforation of the fetus. If half of all the versions were omitted and in their place a mutilating operation done, the results for the children would be the same, he declares, but for the mothers it would be incomparably better. In a recent case, a physician doing version for a supposedly living child, found it had been dead for some time, and he then perforated the fetal head and tried to express the placenta by the Credé method, but found it impossible, and then discovered that the uterus had been completely ruptured. The woman died from peritonitis and the physician was sued for malpractice. Even though such results of version are extremely rare, yet difficult version is liable to induce severe injury, infection and long illness; think of the consequences of injury of the bladder or rectum, he exclaims. In the interests of the mother we must select with the greatest care the cases in which version is indicated.

Medizinische Klinik, Berlin

December 18, VI, No. 51, pp. 2005-2044

118 *Gastric Ulcer. (Behandlung des runden Magengeschwürs.) G. Singer.
119 Moving Pictures as Aid in Studying and Teaching Nervous and Mental Diseases. H. Hennes.
120 Value of Combining Suggestion with Physical Measures in Treatment of Heart Disease. M. Herz.
121 *Insfficiency of the Vertebræ. G. Zuelzer.

118. **Gastric Ulcer.**—Singer reviews his experience with gastric ulcer, and says that feeding by the rectum is the only safe method in cases complicated with severe hemorrhage. In two such cases the attempt to commence the Lenhartz diet brought on serious hemorrhage anew, but restriction to nutrient enemas soon placed the patients on the road to recovery, and then the Lenhartz diet was tolerated without inconvenience and the final outcome was unusually good. He emphasizes the importance of rest and refraining from violent exertion for months and years; patients who have had a gastric ulcer must regard themselves as constantly liable to bring on new disturbances by errors in diet and overexertion. Two patients had had repeated small hemorrhages from a duodenal ulcer, but all disturbances ceased after a Lenhartz course, and the health was apparently perfect for months, when lifting a heavy weight or pushing a heavy table brought on the whole train of symptoms again. The patient should keep in touch with his physician for years and return at the slightest symptom suggesting the flaring up of the trouble. Singer calls particular attention to an early sign which he has found practically constant; this is a sensation of discomfort or pain radiating from the epigastrium toward the costal arches and thence along the intercostal nerve routes to the spine. The regularity of the appearance of this pain or sense of discomfort, especially in connection with eating, is characteristic, and almost pathognomonic of gastric ulcer, even when there is scarcely any dyspeptic disturbance.

121. **Insufficiency of the Vertebræ.**—Zuelzer calls attention anew to the disturbances which Schanz has described as resulting from insufficiency of the vertebræ analogous to the condition with flat-foot. Schanz' description was given in The Journal, Oct. 12, 1907, page 1318, and Zuelzer's experience has confirmed its accuracy in every detail. He found it associated with flat-foot in twenty-three cases. Rest and relief from weight-bearing are the main points in treatment, with massage in the milder cases, but the parts should be left at peace to recuperate in the severer cases. An expensive supporting corset is not necessary. Zuelzer has two long elastic strips of steel run into an ordinary corset, parallel to the spine, and has found that this answers the desired purpose.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 2, pp. 173-310. Last indexed Nov. 19, 1910, p. 1852

122 *Blowing Out the Pleural Effusion and Other Pathologic Accumulation of Fluids Instead of Aspirating Them. (Ausblasung anstatt Aspiration von Pleuraergüssen.) I. Holmgren.
123 Neuralgia of the Base of the Fourth Toe: Morton's Metatarsalgia. (Die Mortonsche Form der Metatarsalgia.) G. C. Bolten.
124 Anemic Gangrene and Ulceration in Intestine as Result of Simple Distention. (Experimentelle Untersuchungen über die Entstehung von sogen. Dehnungengeschwüren des Darmes.) K. Shimodaira.

122. **Blowing Out Instead of Aspirating Pleural Effusions.**—This article first appeared in *Hygiea*, Stockholm, September, 1910. Holmgren's experience now includes seventeen cases in which he has applied this measure. His technic differs considerably from that previously used for evacuation of pathologic effusions. Air is pumped in at an opening above to take the place of the effusion as it is forced out below by the pressure of the in-streaming air. This technic prevents the slightest change of pressure in the chest as the pressure is automatically regulated, and there are no manipulations to discommode the patient. The pumping in of the air is done with a double bulb in the hands of an assistant, the interposed tube being several feet long to make it more convenient for the patient. The operator watching over the two puncture needles can inspect and regulate the inflow of air and outflow of fluid. The pleural effusion can thus be forcibly blown out to the last drop without the patient's feeling the slightest discomfort. The puncture is made in the tenth interspace between the scapula and axillary line, the region being first painted with iodin and the patient being seated. The spot where the lower cannula is to be introduced is anesthetized by injection of a 1 per cent. solution of cocain. By this means it proved possible to remove 3,200 c.c. of a tuberculous pleural effusion without the patient's feeling anything more than an agreeable sense of relief. In another case 3,100 and 2,000 c.c. were thus removed at two sittings. The technic described has the advantage that the procedure of evacuating the pleura can be supplemented by pumping air or gas into the cavity to induce therapeutic pneumothorax as indicated.

Münchener medizinische Wochenschrift

December 13, LVII, No. 50, pp. 2617-2672

125 Act[illegible] ction of Rabbits. ([illegible] auf die experi-m[illegible]) L. H. Marks.
126 *Let[illegible] (Experimentelle Erfahrungen über die letale dosis der sauren Lösung von Ehrlich-Hata 606.) H. E. Hering.
127 *Salvarsan in Syphilis. (Behandlung der Syphilis mit Arsenobenzol.) F. Weller.
128 *Thrombosis After Intravenous Injection of Salvarsan. T. Hausmann.
129 *Paget's Disease of the Nipple. (Krebsekzem der Brust.) G. Hirschel.
130 *Serodiagnosis of Typhoid. (Praktische Erfahrungen mit der serodiagnostischen Typhusreaktion nach Mandelbaum.) F. Ast.
131 *Paraffin Injection in Treatment of Chronic Constipation. I. Lipowski.
134 Improved [illegible] y Technic. (Eine neue Methode [illegible] J. Schwenter.
135 Improved I[illegible] hristen.
136 *Stenosis of the Larynx. (Seltene Verengerungen des Kehlkopfes.) H. Graff.
137 Fa[illegible] isoning. (Fazialislähmung bei [illegible] F. Erben.
138 Ca[illegible] tersuchungen über die Ursachen [illegible] Sauerbruch and M. Heyde.

126. **Lethal Dose of Salvarsan.**—Hering experimented with the acid solution of salvarsan in intravenous injection in five rabbits and five dogs. The results showed that the fatal

dose per kilo for the rabbits was 0.0045 gm. and for the dog from 0.01 to 0.02 gm. This is equivalent to a lethal dose of 0.315 gm. for a man of 70 kilos (about 150 pounds), estimated from the rabbit and of 1.15 gm. estimated by the dog. Fränkel and Grouven have reported the death of a patient injected intravenously with 0.4 gm. of salvarsan in 15 c.c. water with 1 c.c. 1/10 normal sodium hydroxid. Hering thinks that his experiments show that this was above the lethal dose for man, but he is inclined to believe that the acid reaction is mainly responsible for the toxicity of the solution. In an alkaline solution the rabbits were able to bear twenty times the otherwise lethal dose, and the dogs ten times.

127. **Salvarsan in Syphilis.**—Weiler reports experiences at the Leipsic dermatologic clinic in 206 cases of syphilis. Forty of the patients have been under continued observation and recurrence has been noted in fourteen. In three of these cases symptoms on the part of the cranial nerves have been noticed, but as yet it is impossible to say whether they are manifestations of the syphilis or by-effects of the medication. In seventeen cases eruptions developed, accompanied by jaundice in two cases. In two other cases the eruption and temperature resembled typical scarlet fever. In another case hemorrhagic nephritis developed a few weeks after the injection. On the whole, Weiler states that salvarsan undoubtedly works more rapidly than the usual measures in many cases, in some also much more powerfully, but we have as yet no criterion as to whether the drug is able to eradicate the disease. Weiler never used the intravenous route.

128. **Thrombosis After Intravenous Infusion of Salvarsan.**—Hausmann recently stated that he had never observed thrombosis in several hundred intravenous infusions of salvarsan, but now reports a case. It confirms his previous statement that infection is responsible for the thrombosis as in this case, by an accident, the injection was made elsewhere than in the area sterilized for it. The patient was a young man who had had veins punctured for the Wassermann test five times and also for a second infusion of salvarsan, without mishap. The thrombosed vein was resected a month after the infusion, and the *Streptococcus albus* was cultivated from it. In another case Hausmann in trying to obtain blood for cryoscopic investigation in a patient with a stab wound in the kidney, entailing great loss of blood, punctured the vein in various places before he could obtain enough of the very thick blood for the test, and yet there was no tendency to thrombosis. These two cases show the importance of infection *in* the development of thrombosis.

129. **Paget's Disease of the Nipple.**—Hirschel has encountered two cases during the last year in which an eczematous affection of the nipple and breast proved to be secondary to carcinoma beneath. He previously reported a similar case and here insists on the necessity for discarding the term, Paget's disease of the nipple, and calling this affection by its true name, cancerous eczema of the breast. In both of his cases the eczema had been noticed over a year before its malignant character was recognized. In one case the physician then consulted sent the patient at once to the surgeon. In the other case the patient consulted a physician four weeks after the first sign of the affection was observed. He treated it for simple eczema, and a second and third physician the same during the course of the disease. The patient finally applied to a dermatologist who advised an operation at once. Notwithstanding extensive amputation and Roentgen exposures, multiple recurrences are now manifest, six months later. *Hirschel* knows of about one hundred cases in the literature, and emphasizes that the trouble is not cancer developing on chronic eczema but eczema secondary to cancer.

130. **Mandelbaum's Reaction in Typhoid.**—THE JOURNAL, March 5, 1910, page 827, gave an illustrated description of the Mandelbaum technic. Ast has been applying the test to 106 persons and found it extremely sensitive, revealing typhoid agglutinins in some cases even when the agglutination test was negative. It seems to be especially useful for detection of bacillus carriers. On the other hand, a slight tendency to a positive reaction was obtained in some of the apparently healthy.

131. **Treatment of Chronic Constipation by Injection of Paraffin.**—Lipowski's attempt to prevent absorption of fluid in the rectum by injection of paraffin was mentioned in THE JOURNAL, Sept. 4, 1909, page 822. He makes the injection in the evening and his further experiences have confirmed, he says, the benefit of this treatment as the most certain means at our disposal for removing the cause of chronic constipation, while it is the simplest and easiest. The injection is made in the knee-elbow or side position, the tube and funnel being warmed and the paraffin warmed until it is fluid. He has found the method useful for children and especially for infants. The paraffin injection is proving further, he declares, an effectual means for aiding in the cure of hemorrhoids, fissures, proctitis and hemorrhagic or inflammatory changes in the rectum. The consistency is that of a salve at the temperature of the body.

136. **Stenosis of the Larynx.**—In Graff's first case the stenosis was the result of lordosis of the cervical vertebræ in a man of 60, the disturbances coming on gradually in the last two years. In the second case a young man awoke one morning with signs of stenosis ascribed to angina and laryngitis and a tuberculous process was assumed at first. The dyspnea became so intense that by the end of six weeks tracheotomy had to be done and the patient had to wear a cannula permanently. An inflammatory process was treated in various ways with no effect and attempts to dilate the stenosis proved ineffectual. In order to exclude an inflammatory process in the vertebræ, the patient was examined with the Roentgen rays when a foreign body was discovered, which proved to be the metal stopper of a mineral-water bottle. When the patient was shown the foreign body, he remembered that he had been drinking mineral water the night before the first sign of trouble and felt that he had swallowed something like a crumb at the time, but had quite forgotten it. The *foreign body had penetrated the wall of the trachea and* lay close to the spine, without injury of the esophagus. It took over two years to relieve the patient from the necessity of wearing the cannula.

Policlinico, Rome

December, Surgical Section No. 12, pp. 525-568

139 *Early Diagnosis and Radical Treatment of Laryngeal Cancer. T. Della Vedova.
140 Structural Changes in Partially Transplanted Nerves. (Istopathologia degli impianti nervosi centrali parziali.) D. Maragliano.
141 Modification of Krause's Cholecystenterostomy. O. Marchetti.
142 Parathyroid Tumors. S. Gussio. Commenced in No. 11.

139. **Laryngeal Cancer.**—Della Vedova pleads for an earlier *diagnosis of cancer of the larynx by the general practitioner* and says that this is possible even without specialist skill. The ultimate outcome of the various methods of treating laryngeal cancer seems to be far better in the cases in which laryngotomy was done than in those with a more radical operation. About the first sign of the tendency to cancer is a change in the voice, which too often is referred to a harmless catarrh, but the change in the voice persists unmodified and isolated, even when the general health seems to be continually good. When the voice is hoarse the cancer is generally located in the region of the glottis, *involving the* vocal cords or their vicinity. A guttural tone suggests a cancer lower down. The change in the voice gradually grows more pronounced or complete aphonia may follow, *especially* if the cancer is located on the true vocal cords. *Other signs* that should arouse suspicion are an uncontrollable cough, a little pain radiating to the ear, blood streaks in the sputum and more or less difficulty in breathing after effort. There may be slight spasm of the glottis, especially after coughing. In this early stage there is no tendency to lose weight or grow weak and no infiltration of glands, so that the patient may feel constantly well for months and years until the symptoms of advanced malignant disease become manifest. As laryngotomy is commended as the best operative technic, the practitioner, Della Vedova says, should feel less hesitation in advising immediate operation, this being a comparatively simple measure.

Riforma Medica, Naples

December 12, XXVI, No. 50, pp. 1373-1400

143 Inflammatory Processes Around the Sigmoid. (Meso- e perisigmoidite fibrosa adesiva. Laparotomia liberatrice. Guarigione.) O. Cignozzi.
144 Paradoxic Bulging of Interspaces During Inspiration. (Sui rigonfiamenti inspiratori paradossi deglie spazi intercostali.) A. Signorelli.

Hospitalstidende, Copenhagen

November 23, LIII, No. 47, pp. 1297-1328

145 Abnormally Increased Respiration from Lack of Oxygen and Its Importance for the Organism. (Om Iltmangelpolypnoen.) C. Sonne.

November 30, No. 48, pp. 1329-1360

146 Chronic Subphrenic Abscess Presumably of Duodenal Origin. Videbech. Commenced in No. 47.

December 14, No. 50, pp. 1393-1432

147 Intra-Ocular Pressure and Blood-Pressure in the Elderly. (Undersøgelser over det intraokulære Tryk og Blodtryk hos gamle Folk.) H. B. Christensen.

December 21, No. 51, pp. 1433-1480

148 *Duodenal Ulcer and Its Treatment. A. Blad. Commenced in No. 48.
149 *The Cutaneous Tuberculin and the Wassermann Reactions in 228 Scrofulous Children. R. Hertz and O. Thomsen.

December 28, No. 52, pp. 1481-1504

150 *Horseshoe Kidney. Symptomatology, Diagnosis and Treatment. (Hesteskonyren.) T. Rovsing.

148. **Duodenal Ulcer.**—Blad gives the details of sixteen cases in which he operated on account of duodenal ulcer, and reviews 144 articles on duodenal ulcer and its surgical treatment. Medical treatment had been applied in all his cases once or more and had given apparently good results, but sooner or later the symptoms returned. His patients were thus all in a late stage of the disease. For twelve years Tuffier has been urging immediate operation as soon as the ulcer is diagnosed, but Blad does not advocate it until after medical treatment has been given a fair trial.

149. **Cutaneous Tuberculin and Wassermann Reactions in Scrofulous Children.**—The v. Pirquet test gave a positive reaction in 86 per cent. of the 228 children tested and the further course of the cases confirmed the absence of tuberculosis in a number of the cases with a negative response. The Wassermann reaction was positive in eight of the children; in four in this group it was quite slight and these children continued to improve without other measures than those against tuberculosis in general, the v. Pirquet test being positive also in them. The four other children with positive Wassermann reaction presented it in a lively form and mercurial treatment was instituted with the result that the children who had not been thriving before were cured of all disturbances in a short time. Hertz and Thomsen conclude from these experiences that both reactions are of great importance for the differential diagnosis of "scrofulous" affections.

150. **Horseshoe Kidney.**—Rovsing has operated in four cases of horseshoe kidney, but it was not diagnosed beforehand in two of the cases. The complaints of the patients were alike in all, referring to a sense of oppression and dragging down in the region below the stomach, and pains extending to the lumbar region or radiating upward. The discomfort and pain disappear when the patients recline or are at rest, but recur constantly during physical exercise and are especially pronounced if the patient bends over backward. This latter symptom was particularly noticeable in one of the patients, a young man who had to handle heavy lumber at his work. Whenever the spine is bent backward the horseshoe kidney is forced against the spine and not only is this painful but there is liable to be a nervous shock as was observed in one of his cases. The palpation findings confirm the diagnosis, sustained by the subsidence of all discomfort when the patients recline. Rest and refraining from physical overexertion are the main points in treatment, but when this is impossible he suggests operative separation of the kidney into the normal two organs. He performed this operation in his third case with complete success, the young man being relieved from all former disturbances and now having two apparently normally functioning kidneys. Rovsing thinks that he is the first to perform this operation and the gratifying results in his case commend it for wider adoption when the patients are unable to spare themselves physical exertion. He operated by the transperitoneal route and commends this technic as the best; he entered the abdomen outside the colon and duodenum, fearing that the pressure of the kidney might have made the mesentery abnormally thick and tough in the center. He severed the isthmus by the same technic as for resection of the liver.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Treatise on Diagnostic Methods of Examination. By Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with Additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York. Second Edition. Authorized Translation from the Fifth Revised and Enlarged German Edition. Cloth. Price, $6.50 net. Pp. 1229, with 471 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Bismuth Paste in Chronic Suppurations. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago. With an Introduction by Carl Beck, M.D. And a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M.D. Cloth. Price, $2.50. Pp. 237, with 90 illustrations. St. Louis: C. V. Mosby Co., 1910.

Om Thymusinvolutionen Efter Röntgenbestrålning Jämte Några Iakttagelser Öfver Leukolysen I Öfrigt Hos Röntgenbestrålade Djur. Akademi [illegible] inska Fakulteten I Uppsala For Vinnande Af [illegible] Af Hans Rudberg, Med. Kand. af Småland [illegible] 106, with illustrations. Uppsala: Almqvist & Wiksells Böktryckeri-A.-B., 1909.

Primer of Hygiene. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 40 cents net. Pp. 184, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

Principles of Public Health. A Simple Text-Book on Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, M.D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth. Price, 50 cents net. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

The End of Darwinism. Not Change but Persistence is Characteristic of Life; Every Change is Essentially a Persistence; Only What Persists Can Change. An Essay by Alfred P. Schultz, M.D., Author of "Race or Mongrel." Paper. Price, 50 cents. Pp. 19. Monticello (Sullivan County), N. Y.: A. P. Schultz, 1911.

Bidrag Til [illegible] ningarnas Symptomatologi. Akademisk [illegible] Fakulteten I Uppsala För Vinnande Af [illegible] af Gustaf Bergmark, Med [illegible] Licentiat af [illegible] Pp. 203, with illustrations. Uppsala: Almqvist & Wiksells Boktryckeri-A.-B., 1908.

Diseases of the Anus, Rectum and Sigmoid. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Cloth. Price, $5 net. Pp. 476, with 152 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

The History of Medicine. Philosophical and Critical, from Its Origin to the Twentieth Century. By David Allyn Gorton, M.D. In Two Volumes. Volumes I and II. Cloth. Price, $6. Pp. 43 and 497, with 37 illustrations. New York: G. P. Putnam's Sor 1910.

Education: How Old the New. By James J. Walsh, M.D., Dean and Professor of the History of Medicine and of Nervous Diseases at Fordham University School of Medicine. Cloth. Price, $2 net. Pp. 459. New York: Fordham University Press, 1910.

Proceedings of the North Dakota Pharmaceutical Association. Twenty-Fifth Annual Meeting, held at Fargo, Aug. 9, 10, 11, 1910. Roll of Members, etc. Paper. Pp. 160. W. S. Parker, Secretary, Lisbon, N. Dak.

Vaginal Celiotomy. By S. Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Price, $5 net. Pp. 443, with 148 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The Influence of Storage and Various Preservatives on the Dissolved Oxygen in Waters. By Dr. Arthur Lederer. Paper. Pp. 14. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The Preservation of Sewage by the Aid of Chloroform and Cold Storage. Dr. Arthur Lederer and Harry B. Hommon. Paper. Pp. 16. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The Dawn of the Health Age. By Benjamin Moore, D.Sc., M.R.C.S., L.R.C.P. Cloth. Price, $1.40 net. Pp. 204. London: J. & A. Churchill (Philadelphia: P. Blakiston's Son & Co.), 1911.

Practical Physiology. Edited by M. S. Pembrey. By Various Contributors. Third Edition. Coth. Price, $4 net. Pp. 480, with 255 illustrations. New York: Longmans, Green & Co., 1910.

The Care and Training [illegible] Grand Kerr, M.D., Author of "Diseases of [illegible] Price, 75 cents net. Pp. 233. New York: F [illegible]

Report of the Mercy Hospital, Pittsburg, Pa. From May 31, 1908, to May 31, 1910. Paper. Pp. 154, with illustrations.

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THE OPERATIVE TREATMENT OF CANCER OF THE BREAST *

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The only treatment of breast tumors which as yet gives any real hope of permanent cure is thorough removal. Operable cancer of the breast must not be subjected to any other method, because of the loss of precious time. I am obliged, at the beginning of my paper, to give the greatest emphasis to this opinion, because I have seen so many preventable disasters caused by this source of delay in resorting to the knife. And it is not at the hands of the inexperienced or of the empirics that I see these disasters, but in the hands of men experienced in the treatment of cancer, who have become convinced of the efficacy of non-operative methods and who cannot perceive the most glaring failures of their methods. The most pathetic instances of this kind of failure have been through months or years of *x*-ray treatment, during which the patients have gone from operability to glaring hopelessness.

Let non-operative means be used only in those cases which are by situation or extent hopeless. I say this in the strong belief that we are soon to discover an effective and permanent non-operative cure.

I realize fully my own deficiencies in trying to present before this body the operative part of the subject. I can plead only a large experience in breast tumors—an experience in which I have encountered many disasters as well as many successes. From the beginning, the worst of these disasters has been the result, first, of overconfidence in the diagnosis of benignancy, either on my part or on the part of the attending physician, by which overconfidence the most favorable moment for extirpation has been delayed or lost. I have therefore been strongly impressed by the importance of early diagnosis.

Another disaster has been the result of inadequate methods of operation. A third worthy of mention has been the result of a disregard of the contra-indications to operation, or the failure to detect them.

To consider adequately any one of these sources of failure—diagnosis, operative treatment, or indications—would exceed the limits of a single paper.

In confining my remarks to the operative treatment of breast cancer, I cannot but feel that the most important things to consider are timeliness and thoroughness of intervention. I therefore introduce the subject of operative treatment by the most important factor for its success—the early, invariable, and thorough extirpation of all breast tumors in which the expert diagnosis of cancer is more than a possibility. At the cancer age a diagnosis of benignancy even by an expert surgeon does not always mean safety to the patient. Even in such favorable cases, there will be made too many disastrous errors, by which the most favorable moment for extirpation will be lost.

The one important consideration in the treatment of breast cancer is that the surgeon is not to be carried away by new methods in the hope of non-operative cure, lest the favorable moment for the successful mechanical extirpation of the disease be lost.

Though, as I have said, I fully believe that we are on the verge of discovering a means of treating cancer before which the disease will disappear absolutely and permanently, I feel that we have innumerable opportunities for using such methods on the hopeless and non-operable tumors. *All non-operative methods must be strictly confined to the inoperable cases.* In our hope and enthusiasm, or even in the face of some apparently extraordinary cures, we must not in the least relax our vigilance, or postpone operation a single day. We have all seen too many so-called "improvements" follow new methods to allow ourselves to be carried away by them; for have not our "improvements," from the days of condurango to the present, ever proved ephemeral and disappointing? And has not the wish been father to the thought? I have seen the rise and fall of all these methods, and many have been and now are their victims. As in the end I have found nothing but failure and despair, so I look forward to more failures and renewed despair. The earlier and more favorable the tumors for surgical extirpation, the greater the failure and the more blameworthy the disaster; and yet I am full of enthusiasm in the hope that the near future or the next method will solve the problem. One single total disappearance of undoubted breast cancer, under any form of non-operative treatment, will presage success, just as surely as a successful man-flight presaged aviation; but in the meantime, as I say, we must not in the least relax our vigilance.

DIAGNOSIS

The diagnosis of breast tumors on which the surgeon plans his operation may be so positive that he can safely extirpate the tumor by the broadest margin, and carry the axillary dissection to its farthest limitations. But can he always be thus positive? May he not unnecessarily remove a breast, and subject the patient to an unjustifiable danger through an error in diagnosis? May not certain cases of benign tumor resemble so closely cancer that the surgeon is mistaken?

One varies, perhaps, in the positiveness of one's opinion. One's diagnosis may be an absolute conviction. I have often said—and I here repeat—that the diagnosis of cancer by gross appearances, plus the history, made by an experienced surgeon, is more worthy of credence in some cases than the microscopic examination alone. But it is certainly true that before operation the most experienced may be mistaken. One illustrative case will suffice:

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* Read in the Section on Surgery of the American Medical Association at the Sixty-First Annual Session, at St. Louis, June, 1910.

A woman[1] of the cancer age (46), seen in December, 1907, had received a blow on the right breast. A black-and-blue spot followed, with a "little lump" which soon entirely disappeared. Later the bunch reappeared. It was tender and painful. The patient's physician in New York told her that the only safe thing was its removal—advice in which I strongly concurred. I did not think operation likely to cure permanently, for there was a large, hard, infiltrating tumor of the right breast, and my diagnosis was medullary cancer.

The following letter, written to the physician who was to operate, shows how serious a view I took of the case:

"*Dear Doctor S.:* I regret to say that in the case of your patient, Mrs. M., the diagnosis is medullary cancer of the breast. It belongs to the group of rapidly growing and excessively malignant forms of cancer. I can find nothing in the axilla, but the axilla is undoubtedly involved. I concur in your advice of immediate and extensive operation. I should remove the breast and all the skin over it and dissect the axilla up to the first rib. I should remove the pectoralis major and the pectoralis minor, and, if there are any glands above the clavicle, I should dissect the subclavian triangle. Even with the most thorough and extensive dissection that can be made in this case, it is one of those excessively malignant forms which will be followed by an almost immediate recurrence. It is your duty, however, to give this poor woman every chance."

The physician himself operated, removed by an extensive margin the breast and muscles, and dissected the axilla. He had with him a surgeon of experience, who, from the gross appearances of the tumor, agreed with the diagnosis of cancer. The specimen was to me clearly non-malignant. Dr. Whitney's diagnosis was fibroma. The growth was easily removable, and extirpation of the breast, with even its slight dangers and disabilities, entirely unjustifiable.

Although my part of this symposium is strictly the operative treatment, an important element in the operation itself is the demonstration of the diagnosis at the operating-table. The operation demands, before removal of the pectorals and dissection of the axilla, a confirmation of the diagnosis. And this is an essential step of the operation. Neglect to determine, by renewed examination, the nature of the growth, "tumor in hand," may result in an unjustifiable severity of operation. I do not mean necessarily section of the tumor, but I do mean examination between the fingers after the skin incision has been made, the muscles exposed, and the axilla opened. The following case illustrates the difficulty of telling, even after exposure of the tumor, its nature:

(The paragraphs descriptive of this case were written while the patient was being etherized and while my assistant was closing the wound, when the question of error in diagnosis and of the proper treatment under doubt, were most vivid.)

The patient is 47 years of age, and has a tumor in the breast which she noticed two months ago. The disease in this case is, I think, medullary cancer, but I am not positive. Shall I make sure by first incising the tumor, or shall I extirpate breast and dissect axilla on the strength of my diagnosis? I decide first against exploring the tumor *in situ*, because of the risk of auto-infection. I remove breast, pectoralis major, and axillary contents *en masse*. Section of the tumor shows a chronic mastitis, with a single large cyst in the center of the mass. Fluctuation before operation was obscured by the thickness and induration of the breast. There is perhaps a little suspicion of malignancy, but that question awaits the pathologist. The operation has been on the safe side, both for recurrence and for malignancy, and, whatever the diagnosis, the patient ought hereafter to be well.

In this case the axillary lymph-nodes showed to the naked eye every sign of cancer, and I was quite convinced of the cancerous nature of the growth, before removing the whole. The pathologist's report was as follows:

Dear Dr. Richardson: The specimen from Mrs. —— (T. 106—7), June 2, consisted of a large breast, diffusely fibrous, and contained a small cyst. There were lymph-nodes in the axilla which were normal in character.

Microscopic examination showed a diffuse growth of fibrous tissue in which were slightly proliferating gland acini with cystic dilated ducts.

DIAGNOSIS:—Fibrous and glandular hyperplasia with retention cysts.

W. F. WHITNEY.

The opinion which I venture to offer, and the rule which in doubtful diagnoses, especially at the cancer age, I would lay down, is that that operation should be performed which would be indicated were the diagnosis of cancer positive. It is better, I think, to follow this course than first to explore the tumor to make the demonstration of cancer clear. To perform an unnecessarily extensive operation is preferable to subjecting the patient to the dangers of auto-infection.

In this case, with the whole breast in my hands, I could get unmistakable fluctuation in the tumor; but, had I known the tumor to contain fluid, should I have been justified in assuming that the fluid was from a benign cyst? I should not, for it is not uncommon to find collections of fluid in connection with cancer, nor is it uncommon to find malignant degeneration of cysts.

I learned a good lesson a few years ago at a breast operation in Racine, Wisconsin. I found benign tumors of both breasts, and favored extirpation of the tumors alone. Dr. Zeit of Chicago was on hand with his freezing apparatus, and reported malignancy in what seemed to me non-malignant tissue. His diagnosis was "endothelioma in both breasts." With the approval of Dr. Dudley of Chicago, I removed both breasts, and the patient remains well to this day. Dr. Whitney, after a careful examination of both breasts made at his leisure, confirmed the bedside diagnosis of Dr. Zeit. Had I not followed the advice of Drs. Zeit and Dudley, I should have performed an inadequate operation.

In a few cases, reports of which I have already published, carcinoma has developed after the removal of cysts. The percentage, in the whole number of cysts, is extremely small, but it is not a negligible number. The only rule to lay down that would cover such cases would be based on the procedure at Racine—removal of the cyst by a margin sufficiently broad for the immediate microscopic demonstration of the breast tissues. In this way error in diagnosis would be avoided, and immediate radical operation could be performed.

But this question is perhaps a little beyond the scope of my contribution to this symposium. Suffice it to say that, when in doubt, the safe side for the patient demands the more rather than the less extensive operation.

A reasonable accuracy in the diagnosis of cancer of the breast is implied by the opinion of an experienced surgeon that the tumor is cancer. In a word, however positive one's own opinion may be as to benignancy, a single experienced contrary opinion is enough to indicate exploration.

The more I consider the question of reasonable accuracy in the diagnosis of breast tumors, and the larger my experience becomes, the more I am inclined to advise operations on all breast tumors, whether the diagnosis points toward malignancy or not, provided the patient is of the cancer age.

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[1] Office Records lxx, 161.

A diagnosis of benignancy is positive enough to contra-indicate operation if the patient is not of the cancer age, and if the history and signs favor that benignancy. But if the patient *is* of the cancer age, a reasonably certain diagnosis of benignancy is not strong enough to justify the postponement of operation, unless there are contra-indications to operation other than in the tumor itself. There is perhaps one exception to this rule: when a second tumor appears precisely like one that by this rule has been removed, and has proved benign—a cyst, for example. I have several such cases under observation, in which I am ever anxious lest I overlook cancer. But even when, at a former operation, a similar tumor has been excised, does not the occurrence of any tumor, no matter if it is benign, show a tendency to tumor growth which the next time perhaps will show malignancy? My own opinion and observation go to show that cancer is no more likely to form in a breast subject to benign tumors than in one not subject to them. But as the cancer age approaches, does not human fallibility offer a reasonable doubt of *any* diagnosis? I believe that at the cancer age it does offer a reasonable doubt, and one that justifies if it does not demand operation. Indeed, why is it not common sense, in view of human fallibility and the fact that we are formulating rules for the guidance of men of widely varying experience and skill in diagnosis, to group together all breast tumors under the heading of uncertainties, of things beyond human skill and subject to all the frailties of human prognosis, and to extirpate them all?

I must admit that I have too little faith in my own opinion—or that of any one else—to let one dear to me run the awful risk of error, when certainty is so easy and permanent cure so sure.

I use the words "without reasonable doubt" in conjunction with the diagnosis of benignancy to express in the strongest way a human and therefore fallible opinion; and I use these words because of their well-known application in law. The law, in trying to express the justification of a jury's verdict, on which punishment is based, requires on the evidence a unanimous opinion, "beyond reasonable doubt." In surgery a similar freedom from reasonable doubt should prevail when on the opinion may depend health, happiness, and even life itself. And that doubt must be absent in those cases in which, if a necessary operation is deferred or omitted on the strength of it, disaster will follow.

I should not apply this rule to the diagnosis of malignancy. Were only those breast tumors excised in the case of which there is no reasonable doubt of malignancy, much harm would follow. The slightest suspicion of malignancy should demand operation, especially at the cancer age. If there is room for the slightest suspicion of malignancy in the tumor, then it cannot be pronounced benign beyond a reasonable doubt. On the other hand, unless the diagnosis of benignancy is overwhelming, there is no justification in the palliation of benign tumors.

In trying to present my views as to the operative treatment of breast cancer, I find great difficulty in expressing in words my thoughts. I could show this audience, individually, on the patient, what I am trying to say; and I could, I think, show them the tumor which to my mind, being benign beyond a doubt, I should dissect from the breast, or leave alone, and the tumor which without exploration I should remove with the breast, axillary contents and all. But as clearly as I can express my opinion by words whose significance we all understand, it is this: We should remove, breast and all, those tumors in the diagnosis of which there is enough uncertainty to call that uncertainty a reasonable doubt. We should remove from the breast or explore those tumors in the benignancy of which we have enough indecision to call that indecision a reasonable doubt. We should leave untouched only those growths in which we are so positive that we would let them go in the case of our nearest and dearest.

In all cases of great importance a consultation is advisable; but, whatever the number of surgeons and whatever their experience, a single dissenting voice as to the diagnosis should constitute a reasonable doubt, whether as to malignancy or non-malignancy, and the verdict of operating or not should be decided accordingly. On him who decides against extirpation in the presence of such a doubt lies a heavier responsibility than the surgeon, in the present days of safe operating, should be called on to bear. The verdict of a discussion like this, of a body of distinguished surgeons like this, should help him to bear that responsibility.

What constitutes a reasonable doubt of benignancy? The "beyond reasonable doubt of benignancy" is the complement of the slight doubt as to malignancy. When a breast tumor is benign beyond reasonable doubt, there is not left evidence enough of malignancy for the most radical to base indications of operation on. If any man of experience, examining a breast tumor in a case in which I had the responsibility of decision, should say, "I am by no means sure of this being benign; I am afraid it is cancer," I should call that enough doubt of benignancy to justify operation on that tumor. If, for example, everything favors a benign growth but the feel of the tumor, I should say that the slight doubt founded on the feel demanded operation. If the time of life were favorable for cancer, pain, perceptible axillary lymph-nodes, a marked family history of cancer, short duration, rapid growth, adherent and dimpling skin, retracted nipple—any one of these favoring cancer, the other evidence favoring benignancy—would lead me to operate. Of all the signs of cancer, the one that alone indicates operation most strongly is that which fails, through the *tactus eruditus,* to satisfy the surgeon of benignancy, or to remove his last fear of cancer.

In the diagnosis of benignancy, therefore, reasonable doubt is found in any sign or symptom favoring in the least cancer. The evidence of all kinds—the history, family and personal, and the results of physical examination—must be without the least flaw.

But even then, in view of the slight risk of operation, does not the absolute safety of the patient demand operation—after all has been said and done to justify or to postpone operation? Is there any valid reason against the operative investigation, at least, of breast and axilla, except in the clearly hopeless cases?

In trying to lay down rules for guidance in the surgery of breast tumors, am I not trying to sustain a position which, after all, is beyond human power, and therefore subject to human fallibility? Am I not substituting for certainty and safety, uncertainty and danger, and would not a rule of universal operation prevent those disasters, happily infrequent, which cannot but blot the record of even the most experienced and skilful surgeon who endeavors to discriminate between the benign and the malignant?

The only absolute certainty, then, is removal of the tumor and demonstration of its nature. By this means certainty will be established. But the reasonable doubt that I am speaking of is so slight a doubt that the dangers of acting on it are less than even the slight risks and disadvantages of operation.

I would say, finally, that the broadest and firmest foundation on which to base a reasonable doubt of its nature is that of experience. With men of small experience, the diagnosis is, from the limitations of their experience, open to a much greater doubt than would be called reasonable.

I have learned to beware of the swelling in the breast that is only "glandular"; of the "obstructed milk-ducts"; of the "fatty" tumor, the tuberculous, or even the sarcoma. Such diagnoses, except when made by men of great experience, raise always in my mind the presumption of malignancy. Indeed, I do not know how I can better close this part of my paper than by saying that in all tumors of the breast the presumption should be that they are malignant until they are proved benign—guilty until proved innocent—and that the treatment should be that appropriate to the disease which, unoperated on, is the more dangerous to health and comfort.

OPERATION

The first consideration in the radical operation for breast cancer is a reasonable thoroughness of extirpation. To this all other considerations should be subordinate. The main thing in the operation is to get all of the disease out. The more extensive the operation, the better the result, provided the dissection is extended in the same direction as the disease, and provided the patient lives; but there should be reason in all things. The direction in which the dissection should be far-reaching is along the line of the lymphatics, along the line of the great vessels. This line of metastasis after breast operations accounts for by far the greater number of failures; and yet in many cases the recurrence is in the immediate anatomic vicinity of the tumor-seat in the breast. These local recurrences, without recurrences in the lungs or above the clavicles, suggest the inadequacy of local extirpations. It is probably true that the local recurrences are blamed for the fatal results, because they occur first and kill before internal late metastases are detected. I am not, however, advocating any lessening of the present radical operative measures: I am advocating rather, if it were possible, increasing in breadth and depth the dissection. I recommend a reasonable thoroughness of dissection, and one that varies according to the extent and situation of the disease.

I admit that there would be less likelihood of recurrence after breast operations that included a girdle amputation of the upper extremity; but there would be, on the whole, less good to the greater number than after common-sense limited dissection. A reasonable thoroughness requires the removal of the tumor by a broad margin, and of its route of extension by a broad margin. The tumor itself may be removed by a satisfactory margin, when it is small, by including the breast and everything possible in close relation with it. This is accomplished by taking the whole breast and the skin about its margin; the pectoralis major and the subjacent tissues down to the thoracic wall; the axillary contents as far back as the latissimus dorsi, as high up as the first rib, and as deep as the posterior border of the scapula. The upper axillary dissection requires the removal of the pectoralis minor.

AUTHOR'S TECHNIC

The method that I use is an elaboration of one that I first employed in the early eighties, the principle of which is a dissection of the breast and axilla with knife and forceps, made as thorough and as clean as a dissecting-room preparation. Up to that time the only axillary dissections had been made with the fingers, by means of which the glands affected enough to be perceptible to the fingers were rooted out, as it were. Small glands just beginning to be infected were not then perceptible, and the method, though better than no axillary dissection at all (for there were not a few complete and permanent recoveries in demonstrated cancer) was of course inadequate.

From that time I have gradually added to the extent of the tissues removed, and now include the pectorals and make a very thorough and painstaking dissection of the axilla. I never cut through the clavicles, and seldom subject to any but palliative operations the patients with extension of disease above the clavicle. The removal of the skin in my cases is, I think, as extensive as that in any one's; but I contrive to close the wound effectively with skin. I wish to make here my acknowledgments to Halsted for the suggestion and example of thorough and wide removal of the disease. Except in a few minor points, there is nothing original in the method that I use; but in the elaboration of this method I have followed a definitely progressive line, taking one suggestion here and another there, and perhaps adding a detail of my own. The value of my own contributions to the evolution of this operation will, I dare say, be regarded as trivial, but I have learned to rely on them enough to repeat and now and then to elaborate them.

The mortality for operation is practically nothing. Deaths from shock are unknown in my statistics. On the average, the time from the first incision to the completion of the dressing is one hour. This method, which I have gradually elaborated in many hundred operations for breast cancer, seems to me reasonably thorough. In but few cases has it been necessary to graft the resulting wound. When the breast and the skin over it are so extensively infiltrated that the skin beyond the breast margin is stiff with disease, the patient is, in my judgment, beyond a rational hope of cure, and should be operated on only as a palliative measure preliminary to non-operative treatment.

The first incision goes from the insertion of the pectoralis major to the ensiform cartilage, passing to the sternal side of the breast and including as much of the skin outside the breast margin as is deemed advisable. The sternal skin-flap is next dissected from the subjacent fatty tissues, upward toward the clavicle. When the margin of the other breast is reached, that breast is dissected from the pectoralis major a sufficient distance to permit considerable displacement toward the affected side. If necessary, the other breast is dissected wholly free from the pectoralis major.

The second incision is made from the beginning to the end of the first, but passing well to the axillary side of the breast. The skin-flap is dissected back from subjacent tissues till it is well beyond the posterior fold of the axilla, and exposes a sufficient surface—say three or four inches—of the latissimus dorsi muscle.

The next step is the separation of the clavicular from the sternal portion of the pectoralis major. With the fingers of the left hand lifting the belly of the muscle, its sternal and costal attachments are cut close to the bone. The skin between the breast and epigastrium is then dissected, with its underlying fat, down to the upper surface of the rectus and obliquus externus muscles. Sometimes the fascia covering these muscles is also taken with the skin. The mass containing the tumor now sags down and away from the axilla, and the opportunity for a careful and clean dissection is given. In most cases—but not always—I next remove entirely the pectoralis minor. To insure a safe and rapid dissection along the great vessels, I next find and expose the vein. For satisfactory dissection the assistants must be careful to do all sponging with gauze that has not been bloodied. By snapping all arteries and veins with two pairs of forceps and cutting between; by snapping all vessels at once as they begin to bleed and wiping with fresh gauze, the dissection may be kept so bloodless that there will be no chance for error. I begin usually at the first rib, and, with the knife, and without fingering, pulling, or hauling, make a complete axillary clearing from the first rib to the anterior edge of the latissimus dorsi, from its insertion to and along the posterior border of the wound; from the depths of the axillary space to the digitations of the serratus magnus. Nothing is left except the main trunks of the axillary vein and artery and the important motor nerves.

As soon as an absolutely dry wound is secured, I close without difficulty the whole in a straight line from the humerus to the ensiform cartilage.

The time of actual dissection is about twenty minutes; of the whole operation, from ether to the end, sixty minutes.

The speed or slowness of an operation seems to me to affect the amount of shock. As far as I can judge from what I have myself seen, a very much prolonged operation adds materially to the dangers, both by shock and by liability to infection. I have not attained that perfection in technic, or confidence in human infallibility, that would make me unwilling to give some consideration to the question of infecting clean wounds. And as I believe that the occasional wound infection is due primarily to exposure of that wound to unseen, unknown, and therefore humanly unpreventable causes, I like to limit that exposure to as little time as practice in dissecting and familiarity with anatomy will make possible. And yet I dare say that I am wrong, and that, as Halsted says, the severity of the shock depends entirely on the amount of blood lost. A rapid and extensive dissection sometimes has seemed to produce more or less impression on the patient, shown chiefly by slow and feeble pulse and by a deathly look to the face; but as I say, the patients, with practically no exception, recover from this shock and from the operation.

My mortality in fifteen hundred breast operations, of all kinds, is but four; and of those deaths, wound infection accounted for two. No patient has died from the immediate effects of the operation, unless suppression of urine be deemed the result of an extensive dissection.

I prefer this method of removing the breast to all others that I have seen. I do not say that it is any better than any other—perhaps it is not so good as many; but I have developed it in my own way and am familiar with its smallest details.

From the skin cut to the thoracic wall the amount of tissue removed increases in breadth. I have seen operations in which the breadth of tissue removed diminishes as the operation proceeds: there will be a broad skin removal, and a narrower portion of muscle and fat, as the thoracic wall is reached. The only way in which the mass removed can be made more extensive is by increasing the amount of skin removed, and by carrying the dissection above the clavicle. Nothing is easier than to make this more extensive dissection when it is deemed advisable. I do not attempt it often, because the operation at best seems but a palliative one; and to subject a patient to dissections which are sure to be ineffective as to permanency seems to me unjustifiable. Let the broad and deep methods be limited to cases in which the disease is limited and in which the dissection extends far beyond the perceptible part of the tumor.

It will ever be a disputed question as to what constitutes a reasonably thorough operation for breast cancer. My opinion is that an operation, to be reasonably thorough, does not demand the most extensive possible removal of tissues, or even of the skin alone, for the most extensive possible means a girdle amputation. Nor does it often mean so extensive a skin removal that grafting is necessary. Nor does it require resection of the chest wall. Perhaps one gets unduly discouraged in operations for breast cancer; perhaps, indeed, a large percentage of recurrences is *prima facie* evidence of inadequate tissue removal. Whatever the reason, two recurrences in three cases—or the very smallest percentage of recurrences ever published—are but too discouraging.

CONTRA-INDICATIONS

I regard as contra-indications to extensive operations in the hope of permanent cure the presence of metastases above the clavicle, of beginning skin infiltrations (*carcinome en cuirasse*), of beginning chest wall growths. In a word, in extensive disease even the most extensive operation is unjustifiable; in limited disease, extensive operation is unnecessary. Yet in some cases of disease so extensive as to be almost forbidding I have been surprised by long immunity from recurrence; and in some of limited disease, by its speedy return after a radical operation. In either case let the extirpation be reasonably thorough, but not beyond common sense. There remain a few cases on the border-line of the hopeless in which the surgeon may or may not select the most mutilating operation, but in which, if his experience is like mine, he will perform the operation with little if any hope.

PROGNOSIS

The difficulty of establishing the prognosis as to recurrence after radical operation lies in our failure to establish definitely the extent and virulence of the case—in the impossibility of making out the type as it were, of the disease—the standard by which all results must be measured.

Nothing is more evident to me than that, in the hands of good surgeons, the results of operative treatment of similar lesions throughout the world are about the same. There is but a slight ratio for or against this or that operation, this or that clinic. Were all surgeons to operate on patients with the same class of some certain special lesion, the results in the long run would be about the same.

In breast cancer it seems to me by no means difficult to separate the cases in which there is no reasonable expectation of cure from those in which the expectation is good. Each operator, as his experience widens, can group his cases roughly into the hopeful and the hopeless, with an intermediate class difficult of grouping. And there should be, it seems to me, such a rough grouping, according to the prognosis of good, bad, or uncertain. Not that the prognosis after operation is ever anything but uncertain, but some cases are more uncertain than others.

When we are talking of prognosis as to recurrence, we are for the most part wasting our time and that of our audience—are we not?—if one of us includes in his statistics cases of conspicuously bad prognosis and another does not; if one of us operates on every tumor that permits an attempt at extirpation, whereas another excludes all that do not permit removal of the whole by a wide margin; if one publishes the results of a selected group of operations, whereas another publishes every case, including the doubtful or even those proved by operation hopeless.

When every case is published—whatever the findings of the operation—the prognosis will then depend on what the operator deems adequate indication for operation. I am very sure that what I regard as an adequate indication, another will regard as inadequate, and *vice versa.*

My opinion is that, in trying to establish the prognosis, only those cases should be included in the statistics which have about the same attributes—and that the surgeon himself is the sole judge. It behooves us, therefore, in trying to tell the prognosis, to be as rigidly unbiased as to the facts as it is possible for us to be. The only really reliable way, considering the impossibility of excluding bias from our own observations, would be to have the patient, the tumor, the operation, the microscope, under the control of an unprejudiced commission.

But perhaps, roughly, we can get a fair idea of the prognosis by the accumulation of large series of results, including all operators of large experience. The first thing that we wish to know is the average prognosis; the second, why one operator has a large percentage of permanent recoveries and another a small; and especially if that difference depends on methods of operating, and if it does so depend, what ratio to the whole the operative dependence is.

As it is, grouping together all cases, a large number of them show the surgeon, long before he completes his operation, that they will fail of permanent cure.

I am, I must admit, so little impressed by the value of statistics that I am not much given to collecting my own, especially in cases of cancer, to establish my ratio of permanent cures. In some fields they are, I dare say, too good to be accepted; in some, too bad to be questioned. In cancer of the breast they are about the same, I think, as those of most operators, and for the same reasons.

If in my immediate mortality I include, as I have here, every breast case I ever operated on, there will be a reliable percentage of recoveries and deaths. Unless I so include every case operated on in the *hope* of radical cure—whatever the hopefulness or hopelessness of the operative demonstration—I am open to the criticism of selecting my cases.

But some of my best results have followed the extirpation of the disease in somewhat discouraging cases.

The statistics—or my statistics (which, however, I have not as yet collected)—of cancer operations may be regarded as an accurate presentation of results after radical operation on cancer that seemed at least to present enough hope to justify that operation. Farther than that, statistics cannot go; and in estimating this, their real value, one must be able to take into account the operator's personal equation, as it were, in judging the operability and prognosis of his cases.

What do we mean by a permanent cure? For purposes of comparison, I accept the three-year limit, without sign or symptom of recurrence anywhere in the body. But has such a brief period of apparent immunity any real significance? And when that period of time has elapsed can we feel sure that there will be no further trouble? I regret to say that the successful passage of three years means no assurance that the original disease will not later—perhaps many years later—show itself. Not five years, or ten, of perfect health means absolute cure; for have I not seen recurrences in the spine later than that?

For these discouraging views I can only plead the truth. Fortunately, the three-year limit indicates the likelihood that more years will pass without perceptible recurrence. So, as time passes, the dread of recurrence is displaced by an ever-increasing confidence in permanent cure. For its encouraging effect on the patient, I am grateful to this arbitrary, if misleading, period of immunity; for its value in establishing a standard by which one's own results may be measured, I make use of it; but, as far as sure indications of permanent cure go, I have long since abandoned it.

Now what constitutes a reasonable expectation of radical cure in operations for breast cancer—a reasonable hope that the given case will be the one of three or four to be permanently cured?

It is perhaps easier to pick out the cases in which there will surely be a recurrence.

In all cases there is [illegible] f remote and internal metastases that [illegible] discouraging. I regard the slowly growing tumor, with but few perceptible glands in the axilla—and those small—as the most favorable form of the disease, especially after middle life. Rapidity of growth, or the slightest sign of infiltration or of edema in the breast, makes recurrence after any operation for cancer of the breast almost certain. A peculiar thickening of the skin over the breast, gradually shading off at the periphery, is a grave sign.

A breast that is solid with the disease and its edema, with the skin over it stiffened as far as the margin, whatever the condition of the axilla, makes the case practically hopeless. When the disease has burst through the skin, as it were, and appears as a discolored mass amid a surrounding of normal skin, the prognosis is not necessarily bad. It is the infiltration in all directions from the central focus that makes unreasonable the expectation of radical cure.

Close attachment of the breast or of the tumor to structures that cannot be removed, of course means hopelessness. A tumor so close to the periosteum of the rib that it can be separated only by peeling it off—periosteum and all—with a bone scraper; or so close to the intercostal muscles that they, too, must come with it, is beyond the reasonable hope of permanent cure. A tumor that is so closely attached to or grown into the thoracic wall that resection of the ribs is necessary, is beyond the hope of cure, and should not be removed in that hope alone.

The same word "infiltration," as applied to the axillary contents, expresses, I think, hopelessness of radical cure. I, for one, never dissect the glands from veins, or other structures, with much hope, unless they are separated by loose connective tissue. When they are separable only by a sort of cleavage from the vein, from the chest wall, from the fascia, hope of permanent success must be abandoned.

Enlarged glands above the clavicle are always, in my belief, so significant of an already existing internal metastasis that I do not operate in such cases with much hope of permanent cure. For other reasons I remove these supraclavicular glands.

The only cases of breast cancer that can be reasonably included in the statistics for the cure of the disease by operation, are those in which the tumor is freely movable, and in which there is no infiltration or close attachment to tissues that cannot themselves be removed. There must be a margin of clear, uninfiltrated, healthy tissue—in a word, the tumors have been, as far as we can tell, completely removed. Furthermore, the glands affected must not reach above the first rib, and there must not be the least sign of internal metastasis.

Only the most favorable cases, then, offer a reasonable expectation of radical cure.

Is there, in those cases which present one or more of the above unfavorable aspects, any hope of radical cure? If so, how much hope must there be to justify a radical operation?

Before operation many of these unfavorable things will not be apparent. In most cases hopelessness is a matter of operative demonstration, for, of course, we do not attempt radical operation on tumors that are clearly hopeless. If any of these unfavorable things can be detected before operation, almost the only justification of an operation for radical cure is human fallibility—the chance that the case may not be as bad as it seems. There is one other justification, however, and that lies in the experience, not uncommon with me, of an occasional extraordinary success when the outlook, such as I have described, has been bad. This is frequent enough to offer a distinct hope, and to justify operation in the doubtful case.

In any case, to take away pain; to relieve discomfort; to keep up the patient's hope; to permit a better application of non-operative measures; to take the blessed chance of mistaken prognosis and human fallibility—to accomplish any one of these things seems an ample justification in breast cancer for so safe an operation.

ABSTRACT OF DISCUSSION

Dr. Willy Meyer, New York: Diagnosis generally is easy because we see these patients too late. Sanguinolent discharge from the nipple, even in the absence of tumor formation, should lead us to observe the patient most carefully. If infiltration within the breast is found, we must think of a beginning cancer and act accordingly. In suspicious cases, I prefer the radical operation to an exploratory incision. In the last five or six years there have appeared in journals, text-books and monographs so many conflicting statements regarding the radical operation for cancer of the breast, that I think that it is but timely to lay down a few historical facts regarding this operation. The radical operation for cancer of the breast is an American operation. It has been worked out and the description published on American soil. There are two distinct advances in this operation. The one works from the chest toward the shoulder, and the other from the shoulder toward the chest. There is no intermediate operation. The one from the chest toward the shoulder, in which the trunks of the feeding blood-vessels and the tendons of the pectoral muscles, with the axillary lymphatics and glands are attended to later on in the course of the operation, has been worked out by W. S. Halsted, of Baltimore. The description was published in the *Annals of Surgery*, October, 1894. The operation in which the surgeon works from the shoulder toward the chest, in which the tendons of the pectoral muscles are primarily met and cut, and the blood-vessels leading toward and from the breast are primarily clamped at their base, and divided, and the axillary fat with glands removed toward the sternum, was worked out in New York and the description published in the *Medical Record*, December, 1894. It was but natural that surgeons should follow the leadership of Halsted, and I am sure that I would have done the same thing had I not seen independently at the operating table the advantages of working in the opposite direction, making the operation a more typical and tomic one, saving time and blood.

The publications that have appeared in the last five or years point to the fact that surgeons are gradually comin do the operation from the shoulder toward the chest. Wa of Boston and Jackson of Kansas City do not favor graf toward the end of the operation and have therefore modi the operation by making dermatoplasty. In every other es tial point the Boston and Kansas City operations are i tical with that described in New York sixteen years ago. man, of Philadelphia, also lately has done the operation f the shoulder toward the chest. He is afraid of continuing incision onto the arm, fearing cicatricial band formation w might interfere later with the function of the arm and th fore he makes his skin incision transversely near the ax I have not seen such an occurrence in the ordinary case. European surgeons only Rotter, of Berlin, needs considerat More than one year after the description of the New Y operation was published he brought out an operation simila it. Kocher, of Bern, has never devised an operation of own for cancer of the breast.

With reference to final results: I still believe that, first, virulence of the infection in a given case determines the of the patient; second, the time of the operation, and th the situation of the tumor. With the radical operations in hands of all surgeons, no matter in which direction we adva in operating, between 40 and 50 per cent. of the patients o ated on pass the three-year mark; between 30 and 40 per c pass the five-year mark, and yet these patients are not alw cured. Many have seen the trouble recurring after eight ten years, and longer. Further improvement in our statis will come when operations are done early, and when the ca of carcinoma has been found.

Dr. Parker Syms, New York: We have learned much ab cancer of the breast during the epoch which began in 1894, can now take a hopeful view of the subject. Rodman has sta that it is possible to cure 80 per cent. of the patients with ideal application of our present methods. This would dependent on early diagnosis, and an early, radical and prope performed operation. There is, of course, much difficulty making an early diagnosis in certain doubtful cases; but w we bear in mind the fact that between 80 and 90 per cent. all breast tumors are cancers, and when we remember t there is a precancerous stage, we may expect to get much b ter results. Between 10 and 20 per cent. of tumors, thou benign at one time, are precursors of cancer and must regarded with suspicion. Every tumor of the breast should removed. If a reasonable suspicion exists as to its malignan we should perform the most radical operation.

There is one early sign of cancer of the breast, which p cedes retraction of the nipple, and which I have never s mentioned in print. In a large proportion of cancers the n ple of the affected breast is on a higher level than the n ple of the healthy breast, owing to a shortening of the trabe læ. In a benign tumor the nipple of the affected breast w be lower than that of the healthy breast as a result of sim gravitation. I am glad of this opportunity to supplem what Dr. Willy Meyer said because modesty prevented h from saying what he should. By a coincidence the work Meyer and Halsted appeared in the year 1894, and it was n till then that we attained satisfactory results in our treatm of cancer of the breast. Prior to that time I had an experien of ten years in the New York Cancer Hospital and in my o experience, as well as in that of my colleagues, I am sor to say that it was almost unknown to cure a cancer of t breast. We all know what change there has been in our resu since these admirable operations were given us. The operati of Meyer is one that I have always favored. I regard it one of the most important operations in surgery. It is such beautiful, classic, anatomic removal of all the affected par and, if properly done, it is a safe operation requiring but lit time to perform. Although it is one of the largest operatio we do in the domain of surgery, it is quite possible to sho the patient so little that she may be out of bed in from twent four to forty-eight hours. Meyer's operation has, as a partic lar advantage, the working from the shoulder to the che against the direction of the flow of the lymph and venous channels, so that we are working toward the tumor and not from it, in that way very materially diminishing the chance of a recurrence by dissemination. There have been many modifications of the Meyer and Halsted methods. Of all incisions devised, those of Jackson are the most ingenious. They should certainly be employed whenever the tumor is not too high so that the quadrilateral flap may be taken from a part well above the growth. The obliteration of the axillary fossa is important. The outer flap should be brought tightly against the chest-wall, so that it will heal there by primary union. The method of dressing deserves special attention. The flap should be held snugly to the chest-wall by means of flat gauze pads, firmly secured with adhesive plaster. The arm should not be included in the dressing, but should be left perfectly free; the patient should be able to assume the "statue of liberty" attitude. If these details are carefully attended to there will never be limitation of motion.

Dr. Herman Tuholske, St. Louis: I have for the past fifteen years removed all tumors of the breast, whenever I could persuade the patient to let me do it. I have done that in many cases in which I was positive that the tumor was not malignant. These tumors should not remain in the breast, because we never know when they will become malignant. A frozen section was always made in those cases in which I was not quite sure that the tumor was not malignant. The reason for using the microscope is not to assist in deciding on removal of the tumor, but to determine whether radical operation or the usual elliptical incision and removal of the mass is called for. I believe that a tumor, small and round, a fibroma, may be removed safely without amputating the breast; but my experience has taught me that in the majority of cases a tumor occupying much space will in time necessitate the sacrifice of the whole breast. The eye and the hand will always decide the malignancy of the tumor. The patient should always be examined in the horizontal position. It is only then that the hand, moving the breast over the thorax, will discern every little inequality and discover nodules and whether they are hard or soft. In that way and with a careful history you can make a fairly correct diagnosis, and if the tumor is malignant the most radical operation should be performed. My plan has always been to go from the shoulder into the axilla, exposing the large vascular bundle and emptying the axilla of its contents as far as the posterior border of the scapula. I make the cut forward, passing down along the sternum so as to cut the upper part of the external oblique fascia. There something to be removed might be encountered. Then, when the skin is undermined extensively, it will do away with tension of sutures or with the necessity of skin grafting. In all these radical operations not only the pectoralis major but the pectoralis minor should be removed; the latter, because it facilitates the operation greatly.

Dr. Miles F. Porter, Fort Wayne, Ind.: After all known diagnostic skill has been exercised, what is there left? Uncertainty as to the final results. That means that all tumors of the breast should be removed. Doubt can be dispelled by microscopic examination made by an expert only, and that should be done in all cases of tumor of the breast. It has been my fortune or misfortune to encounter four cases of breast trouble in none of which was there any tumor to be discovered on close examination, and in two cases I was assisted in the examination by men who are recognized as being among the best men in the country. In two cases we had to deal with a malignant condition. In two cases the condition was benign. I would call attention, therefore, to the possibility of the existence of carcinoma of the breast without tumor formation. Two of these cases occurred in women at or after the menopause; two occurred in younger women. One of these had a carcinoma, and one of the older women had a non-malignant trouble. The occasion for looking at the breast in three of the cases was a sanguineous discharge from the nipple, without any tumor whatsoever. In the fourth case there was retraction of the nipple with eczema. I am firmly convinced that surgical removal of tumors before diagnosis is possible can cure more individuals and add more to human life and human usefulness than can any other measure. The surgeon should remove the tumor and make the diagnosis from the specimen.

Dr. William L. Rodman, Philadelphia: I want to emphasize the last statement Dr. Porter made. If better results are to come at all they must come from earlier diagnoses. It must be admitted by everybody that operative measures have been carried to the extreme limit. We must make earlier diagnoses if we are to get better results. I understood Dr. Porter to say that this can be done only by making frozen sections at the time of operation. Macroscopic appearances are valuable, and experienced men are usually able to hit the nail on the head, particularly those who work in laboratories; but it is simply impossible, and beyond the ken of any surgeon, no matter how experienced he may be, or how sharp in acumen, to diagnosticate a case of abnormal involution which is just changing into a condition of malignancy. And yet this is a very common condition. At least 10 per cent., perhaps 25, of such cases end in malignancy. Therefore the only safe thing to do is to employ frozen sections in all cases of doubt. There is no danger in such a practice if a hot iron is used at the time, even if the case is cancerous. It has been stated that it is not absolutely certain. Of course it is not. Dr. Porter said yesterday that the *x*-ray was the best means of diagnosticating stone in the kidney, and yet he and others admit that occasionally it will fail to detect the stone. We should use all and certainly the best means at our command, at the same time admitting that none is absolutely infallible.

Dr. Maurice H. Richardson, Boston: I believe in the invariable extirpation of a tumor which is a cancer; yet we are not yet so proficient in our diagnosis as to be able to tell always when a tumor is a cancer. In the case of a young girl I do not believe that there is any danger in leaving a small fibroma in the breast, provided that we can see the patient often enough. In performing this operation, I employ a method which has proved entirely satisfactory to me. It is an operation by which the breast wound is closed. I make the Warren incision and the old-fashioned elliptical incision, starting in high up, going beyond the margin on one side and lower on the other down to the ensiform cartilage. That takes in all of the skin of the breast to the distal and to the proximal side. The next step in the operation is to undermine well over to the other side and back to the border of the latissimus dorsi and down to the margin of the obliquus externus. The pectoralis muscles are then removed. There is nothing original about the operation, as I have only followed the lead of others, but I like to do the operation in this way. I do not know that it makes any difference at which end you begin, except for the reasonable argument that you work away from the current of the blood and lymph instead of toward it.

DISTURBANCES OF LACTATION *

A. C. COTTON, M.D.
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If an apology were necessary for the presentation of this subject I would merely refer to the vast amount of clinical and experimental work and the great number of able papers recording observations and deductions along the line of substitute feeding.

During the past two decades medical literature has teemed with contributions on the subject of artificial feeding of infants, and the world is informed of the awakening of the profession to the necessity for a more exact knowledge of infants' dietetics. That there is good reason for this activity is evident in the high rate of infant mortality from dietetic disorders.

Research, observation and clinical evidence beget research, observation and clinical evidence. Ideas and theories find champions, patents are secured for artificial foods and methods of feeding, the mercenary spirit is aroused, and the money power enlisted, chemists, clinicians and practitioners enroll under the different banners and the merry war is on.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

Just now a lull in the conflict allows us to look over the field and observe that the leaders of the "exact percentage feeding" idea have gained signal points of vantage in the population centers while their opponents are sullenly withdrawing to the woods with the evident intention of continuing the struggle in the rural districts. Each faction claims a victory and statistical bulletins announce the delivery of the human infant from nutritional disorders.

The observer can hardly refrain from indulging the conjecture that, if the originator of the plan of genesis could have secured for Rotch or Beidert or Lehman or Professor Gaertner access to the ear of the First Great Cause, Grandmother Eve's pectoral function might have been arranged more in conformity with modern laboratory ideas.

"What!" exclaims Mother Partington; "is it true they are about to abolish the mammary gland? that the maternal lactiferous fount is to be relegated to a condition of innocuous desuetude? Are the sufferings of our good old maternal progenitor, great-grandmother Marsupiala, in vain? Is the adjustment of her pectoral integuments to the assaults of the cruel mandibles of her ornithorhynchous progeny to count for naught? Is that wonderful mechanism by which the female mammal supplies nutriment for the infant a failure? Is the human mammary gland inadequate to meet the requirements of civilization? If so, why? Wherein is it inadequate? What long stride in our evolution has taken us beyond the reach of compensatory development?"

The lower orders of mammalia, both free and domesticated, nourish their young by lactation with success to a degree that, by comparison, seems to place instinct above intelligence when contrasted with the failures in the human being. In all candor let us inquire whether it is not expedient that we should devote a portion of that vast energy now expended in the search for substitute foods to the subject of "disturbed lactation and its causes." Let us face this question squarely. Have we exhausted the resources of the human mammary gland as a milk laboratory? I beg leave to emphasize the importance of careful clinical and analytic work towards a determination of the causes of disturbances in the equilibrium of mother's milk.

Before entering on this subject the physiologic process by which milk is produced should be considered briefly, in order that some of the influences which affect these changes may be better appreciated. A peculiarity of the function of the mammary gland is that it persists during a more or less definite time and then subsides. Exceptions are seen in some cases of prolonged lactation, and in curious instances in which the function is established in women who had never conceived, under stimulation of the nipple by sucking, a point of clinical value.

Without taking time to review the structure of the gland, attention is called to the fact that the alveoli are lined with columnar epithelium, and it is by means of these cells that this composite emulsion is produced.

The exact mode of its production from the circulating fluids has been a subject of much discussion and extended research. The older belief that the cells of the glands operate as a sort of filter, the milk being derived directly from the blood, has been rejected as unscientific. To-day three theories claim attention.

Stated briefly, the first explains the production of fat by an actual breaking down of the lining cells—a fatty degeneration—a process which, it is estimated, would require the renewal of the epithelium of the alveoli at least five times in the twenty-four hours. This is held by some to be preposterous. The second theory is a modification of the first, as only the free ends of the cells, after a stage of increased activity, appear to break down, liberating their products of metabolism, the fixed ends with the nuclei remaining to renew the process. The third attributes to the cells of the mammary gland, through the agency of protoplasm, a power analogous to that of other secreting structures, viz., the power of elaborating from the fluids a secretion peculiar to themselves, cell destruction being no more necessary than in other secreting glands. More exact knowledge on this subject would be valuable in its bearing on the subject of changing the constituents of the milk by physiologic methods, as feeding, etc., a matter which has hitherto been determined exclusively by clinical observation and experiment. Were the glands mere filters, as was formerly taught, it is reasonable to suppose that the quality of their products would partake of the nature of the blood constituents, and that changes in the latter would produce corresponding changes in the milk, a result which repeated observations have disproved.

No secretory nerves have yet been demonstrated in the mammary gland, but, were clinical data wanting, analogy would compel the acceptance of the hypothesis of nerve influence and control in the secretion of milk, probably through the cranial and sympathetic nerves. It is a fact of such common observation that mental conditions influence the milk-supply that no teacher denies it. Violent emotion, excitement, shock, fatigue, may alter any or all the secretions. Secretory glands may become vicariously excretory, etc.

Milk secretion is subject to variations in quantity as well as in quality. In the majority of cases it is regulated to meet the requirements of the infant, although instances are common in which the quantity is insufficient. On the other hand, it frequently occurs that the mother may successfully nurse two infants, as in the case of twins, or in wet-nursing in foundlings' homes, etc. From this it may be inferred that in some mysterious way, to a limited extent, the supply is regulated by the demand. It is believed that the surplus, if not drawn, is reabsorbed.

It is a question whether the daily quantity of milk can be increased by any medicinal agent. It is well known, however, that the mammary secretion, both as to quantity and composition, is quite sensitive to many influences. The secretion is usually diminished by a so-called "dry diet," in which there is a deficiency of water, while, on the other hand, it may be increased by a liberal allowance of fluids.

Attention is directed to the mental attitude of the mother during nursing as influencing the quantity of milk. It must not be forgotten, however, that over-anxiety to produce may defeat its object. Loss of fluids from any cause—as copious perspiration, menstruation or diarrhea—may lessen the amount.

The secretion of milk, when scanty, may be increased by any agency that increases normal metabolism—as diet, exercise, massage, electricity, fresh air, sunlight, congenial surroundings, freedom from discomfort and an equable temperament. Sudden emotion—as grief, anxiety, anger, fear, or anything that produces shock or profoundly impresses the nervous system—may not only diminish the secretion, but occasionally may cause total suppression.

It is accepted that the constituents of milk may be influenced by variations in the hygiene, especially in the diet of the mother. The former belief that the fat of the milk was increased by the fat ingested has been repeatedly disproved by actual experiment, although Winternitz claims to have demonstrated its truth in lower animals. It is believed to-day that the proportion of fat in the milk depends largely on the amount of protein in the mother's food, increase or diminution in the latter causing a like change in the former. This relation of proteins in the food to fats in the milk is a matter of daily observation. A mere ingestion of albuminoids, however, is not sufficient to produce a "rich milk," since thorough digestion and assimilation are essential to fat elaboration. Fat may be scanty in the milk, not only from an insufficiently nitrogenous diet, but also as a result of excess of fats in the food. Examples are not wanting of mothers who, in their efforts to enrich their milk, defeat this object by inordinate ingestion of cream.

The proteins are rarely low, except in cases of exhaustion or debility, as from sickness or insufficient food. In this condition the milk is poor and watery, there being a deficiency in all the solids. It may occur that the mother's milk, in cases of debility, shows an excess of proteins with a deficiency of other constituents. Excessive proteins may appear also in the milk of the overfed mother of sedentary habits.

Sudden disturbances in the digestion of a healthy nursling leads the physician at times to startling conclusions in his search for their etiology. Violent agitation of the nervous system of the mother may change the quality of the lacteal secretion almost instantly; the milk quite frequently, under these circumstances, resembling colostrum in its changed proteins, low fat, and colostrum corpuscles. Instances are known in which convulsions and even death to the nursling have followed.

The analysis of the mother's milk frequently leads to the discovery of the cause of the infant's indigestion. The secretion of colostrum milk has been known to follow undue fatigue, excitement, anger, grief, coitus, also menstruation and conception. In fact, disturbances of digestion in the infant are frequently the first intimation of another pregnancy in the mother.

Both the quantity and the quality of the milk are influenced by the frequency of nursing. Poor milk frequently results from prolonged or irregular intervals in nursing. The more frequently the breasts are emptied the higher will be the percentage of solids, especially the proteids.

Among many probable influences that operate to the disadvantage of normal lactation I would suggest as worthy of immediate study (because apparently most ignored) (1) the return of maternal menstruation and (2) the indulgence in coitus during lactation.

Pregnancy in the nursing woman has long been regarded by the majority of observers as a contra-indication to suckling, but, as to the effect of menstruation and coitus wide differences of opinion are apparent and the paucity of reported observations concerning their influence on lactation is, to say the least, quite startling.

The lame excuse that the subject is delicate and the facts hard to get at because (for obvious reasons) our sources of information are unreliable, is just as valid along other lines, and was formerly considered a bar to the clinical study of anatomy, physiology and gynecology. The gynecologist found it necessary to know of and to control the exercise of sexual function in his patient ere he secured satisfactory results. Shall the pediatrician be expected to work in ignorance of conditions of possible vital importance to the welfare of his nursling patient? Must he be handicapped in his control of certain important elements in the hygiene of lactation?

The prevalent modern uplift movement in social hygiene is facing some startling facts and theories and is becoming familiar with very plain language largely in the interest of the unbegotten progeny. Shall lack of candor concerning sexual hygiene sacrifice the already born nursling?

With all due appreciation of the high degree of success attained by our rapid advance in substitute feeding, I protest against the too frequent early resort to the artificial, before the possibilities of the natural mode of feeding have been exhausted. I believe that there are moral and prudential, as well as physiologic and sanitary reasons, why the rapidly increasing tendency towards abrogation of this maternal function should be checked.

These and kindred considerations have impelled me to look up the literature as to the effects of menstruation, and more especially coitus, on maternal lactation. A review of over ninety books on diseases of children, obstetrics, physiology, physiologic chemistry and about 200 magazine articles on infant-feeding and allied subjects, shows not more than a dozen authors who directly referred to effects of sexual intercourse during lactation. Time will allow but a few references to older writers.

Bouchut[1] quotes an aphorism of Galen: "I order all women who are nursing children to abstain from venery."

Chevasse[2] says: "If the mother begins to menstruate, she should refrain fromcoitus, from probability of conception."

Bouchut quotes Platner: "Certain it is that unsatisfied desires are worse and more harmful than a rare and moderate use of venery." Routh[3] in treatment of defective lactation refers to great sympathy between breasts and genitalia, states that proper functional use of the one will influence the other and advises occasional reunion to improve and excite flow of milk.

Hartman[4] says that sexual intercourse may be allowed the mother moderately; it should be forbidden only from danger of ensuing pregnancy.

Trousseau[5] says that conjugal intercourse is not injurious to nurse or nursling provided it is regulated by great moderation.

Laurent Joubert in "Curiosities," advocated moderation from personal experience in his own family.

Vogel[6] says, "Whether a coitus, on which no gestation follows, is in itself injurious, I am unable to say; but it does not seem probable."

Bouchut says that nothing positive is known concerning the influence of coitus, but that wet-nurses should be forbidden it from danger of conception following and the consequent diminution of milk. He recites a case of a young woman whose child fell into violent convulsions each time she gave herself up to coitus, but says that numerous examples on the other hand demonstrate that influence not always so injurious.

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1. Bouchut: Diseases of Children, 1855.
2. Chevasse: Advice to Wife and Mother, 1877.
3. Routh: Infant-Feeding, 1879.
4. Hartman: Diseases of Children, 1853.
5. Trousseau: Clinical Medicine, 1871.
6. Vogel: Practical Treatise of Diseases of Children, 1806.

Routh ("Galactorrhea") says that there can be no doubt that irritation in the uterus itself, or its immediate appendages causes profuse secretion. Undue excitement has been known to produce a jet of milk from both breasts, which has subsided only with the cessation of the stimulus. He says nothing concerning the quality of such milk.

Busey[7] says that excessive sexual indulgence during the period of lactation seriously deteriorates the nutritive qualities of the milk. This influence has not been definitely determined. The unwholesome and sometimes pernicious changes produced in the mother's milk by sudden bursts of passion, menstruation and excessive sexual indulgence are too well established by clinical observations, if not by chemical analysis, to be considered mere coincidences unworthy of the attention and careful scrutiny of the scientific physician. Woman is the highest type of the breeding female, yet she is the only one not exempted from the approach of the male by a natural interval between the periods of estrum. It is a law of the physical economy that excessive indulgence of any animal passion, or the overwork of any function or organ, is detrimental to the whole organism.

The "Dictionary of Medical Sciences" reports a case of a woman whose milk gushed out with force and abundance during coition; the quality is not mentioned. Herodotus refers to this long-known effect.

Engelmann[8] says that the negroes of Loango of Central Africa are a fair type of the black race. With them women are prohibited from sexual intercourse during lactation, which averages from twelve to fourteen months. Among the northern tribes of Russia the mother dwells apart for several months after confinement. On the slave-coast, when women become mothers, they are sent away for three years to nurse the infant and to prevent cohabitation. If the act should be accomplished they believe that the evil spirit takes away the milk and the child dies. A woman is chosen for the husband by the wife during her own period of lactation. The Japanese employ "by-wives." Native women of Africa, Asia and many of our Western territories are *not only* kept apart from the husband during confinement but for weeks afterward. With them as with Hebrews there is the idea of uncleanliness. But by this isolation, rest and non-exposure the women escape numerous uterine troubles.

Regarding the Jewish custom[9] of a longer period of uncleanliness for a "maid child" than for a male, Kotelman believes it was because females were weaker, more despised and believed to be more unclean. For a boy the period of lochia rubra was seven days and twice that period for a girl. The lochia alba lasted thirty-three days for a boy and sixty-six for a girl, before their burnt offerings could be made.

Arabs do not deprive themselves of sexual intercourse during the course of lactation. The Prophet, however, without expressly forbidding this practice, lets it be understood that it must not be an injury to the nursling. According to Sue, Mohammed commanded a widow who was nursing a child not to remarry before two years, counting from the day of birth of the child, unless he should die or her milk be dried up.

Busey-Caseauz suggested a "relation of causality between rickets of the infant and the frequent occurrence of the menses during the greater part of lactation"; but Tilbury Fox was the first to assert and prove the direct relation of cause and effect. From numerous observations carefully recorded, he deduced the important conclusions that when rickets attacks a child entirely dependent on the mother's milk, the mother will be found to have menstruated during lactation regularly for several months and the degree of rickets will be in direct ratio to the frequency, duration and amount of menstrual flow. My own observation fully corroborates the testimony of Fox.

Hirst[10] says that return of menstruation will sometimes affect the quantity and quality of milk but not as often as popularly supposed. Zweifel, Winckel, Joux, Tilt, Becqueril and Vernois state positively that the return is without influence on lactation. Tilt obtained these results; of 100 women whose menstruation returned, forty-five retained milk unchanged; in eight it was diminished; two lost the milk altogether; twenty-four had large flow during and fifteen after menstruation. In six the percentage of solids decreased.

Rotch[11] gives few analyses, but suggests the probability of a deficiency in fats and increase of proteins.

Holt[12] says that the effect is exceedingly variable, depending on individual and ease of menstruation. Meyer in 685 cases noted disturbances in over one-half. At the present time sufficient observations have not been made. Monti believes that the fat is not constantly affected.

Schlichter[13] arrived at conclusions after careful watching and chemical analyses; the increase in weight during menstruation in many cases was extraordinary. Increase in weight is greater during and directly after the appearance of menstruation than before. Metrorrhagia before the sixth week may retard development.

Diseases in the nursing child, as dyspepsia, colic, enteric catarrh, occurring during menstruation, should be regarded as coincidences.

The "American Text-Book of Obstetrics" (1895) says that the presence of colostrum corpuscles after the eighth or tenth day indicates qualitative changes in the milk which may disagree with the child. This has been observed when the mother has been affected by some profound nervous impression, such as excessive grief, fright, fatigue, or sexual excitement, anemia, and occasionally the return of menstruation.

Jacobi[14] says that pregnancy is incompatible with lactation. It is rare for a woman to have strength and blood in sufficient quantity to sustain herself, nursling and an embryo. Therefore as early as 1758, a law was passed in France, according to which wet-nurses had to inform their employers of the occurrence of another conception. Not very rarely will the uterus not be able to resist the persistent mammary irritation kept up by nursing and the fetus is expelled. The milk of a pregnant woman undergoes a certain number of changes. Milk assumes the nature of colostrum. Changes brought on by menstruation are analogous, though not so complete. Opinions differ as to whether it contra-indicates nursing; for it is true that there are many observations of colic, vomiting and acid diarrhea, but just as many of entire euphoria. Sutils[15] records an investigation of the influences of pregnancy on nursing women as shown in weight of infants. In twenty-six cases, on the nurse's becoming pregnant, there was retardation in child's gain.

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[7] Busey: Mortality of Young Children, 1881.
[8] Engelmann: Labor Among Primitive Peoples, 1883.
[9] Leviticus, xii, 2, 5.

[10] Hirst: Abnormalities of Milk Secretion.
[11] Rotch: Text-Book, J. B. Lippincott, 1908.
[12] Holt: Text-Book of Diseases of Children, D. Appleton, 1909.
[13] Schlichter: Wien. klin. Wchnschr., 1889.
[14] Jacobi: Influence of Menstruation, Pregnancy and Medicine on Lactation.
[15] Sutils: L'Obstetrique.

That the early appearance of menstruation is a frequent result of coitus during lactation I believe to be true. I am satisfied that disturbances of lactation on the recurrence of menstruation is the rule with few exceptions.

Unlike Schlichter's, my own observations show that the child gains weight occasionally toward the close of and nearly always immediately following menstruation. Exceptions to this are seen in those cases in which the digestive disturbances of the nursling are unusually marked, such disturbances most frequently occurring during the approach of or in the early days of the menstrual molimen.

My own observations lead to the conclusion that gestation, menstruation and copulation in the large majority of cases are inimical to the highest perfection of lactation; that there are apparent exceptions to this may only prove the rule.

I believe that primitive woman attained to the highest degree of perfection in the exercise of but one of these functions at a time; that primarily menstruation did not recur during lactation nor during gestation; that woman's period of estrum ceased with conception and remained quiescent throughout gestation and lactation; that coitus out of the period of estrum was forced on the primitive female as the price of monogamy; that one of the results of the compromise is menstruation during the primal period of rest.

The price of civilization includes other items of compromise with natural laws which tend to prevent or deteriorate healthful function. As a result of these misplaced or superinduced reproductive functions I have noted the injurious effects on the nursling in varying degree from retarded weight gain, loss of weight, athrepsia, marasmus, and acute gastro-intestinal disturbances to sudden death in convulsions or coma from acute intoxication.

Truly, it is claimed that menstruation and especially coitus are factors difficult of isolation in the etiology of disturbed lactation. The alert observer, however, will encounter not infrequently cases in which this factor is obvious; as, for instance, the normal lactation in maternity hospitals disturbed on returning to the husband reestablished on reentering hospital; the cases of impoverished or perverted lactation which improve under relief from sexual duties as a result of sickness, absence, injury to or death of the husband, or the hygienic visit to grandmother's; not to mention the authentic occurrences of dyspepsia, convulsions or even death of the nursling following the return of the commercial drummer to the bosom of his family.

The gynecologist has demonstrated that cohabitation is in many instances inimical to successful treatment, and he learned to supervise the sexual relation of his patient. Are we willing to admit that the matter is too difficult for the pediatrician?

If then in all possible cases of indigestion or disturbed nutrition in the nursling, in which other cause is not apparent we add to our routine of weighing and milk analysis a careful supervision of the nurse as to the physical and functional condition of the generative organs with exact knowledge as to her sexual habits, we shall undoubtedly arrive at more definite conclusions. The field promises to be too fruitful to remain much longer fallow. If just a moiety of the energy and ingenuity now expended on the problem of how to rob the baby of his birthright through the substitution of unnatural foods were applied to the question of normal lactation the resultant betterment of both mother and nursling, the lowered infant mortality and diminished child morbidity would, in my opinion, prove a most profitable harvest.

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COMPLEMENTAL FEEDING OF THE INFANT AS AN EFFECTIVE AID IN MAINTAINING MATERNAL NURSING *

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Possibly no subject to-day is attracting more serious attention among the thoughtful members of society in various civilized countries than that of the necessity of devising measures to reduce infant mortality. While the phases of this question are legion, and the remedies complex, there is at least uniformity in the opinion that maternal nursing furnishes one of the chief aids in the solution of the problem, provided the breast-milk already is, or can be made to be, competent. I have already addressed this body concerning measures directed to the nutrition and health of the mother, which may be employed to assist in maintaining or reestablishing a sufficient flow of breast-milk, and it is not my intention to dwell on this phase of the subject.

While such measures have proved to be often most helpful, it would be absurd to assert that they are always completely successful. However, even in less successful instances there is often some undoubted gain both in quantity and quality of the mammary secretion, although the total secretion may not at best suffice to satisfy all the needs of the infant, as shown by its inadequate increase in weight. It is, nevertheless, a definite strategic gain, measured by the future chances for the infant's life, if the threatened loss of breast-milk can be stopped or even delayed. The continuance of a moderate amount of breast-milk ensures a greater probability that the newborn infant will not suffer from serious disturbances or retrograde rapidly into a condition of malnutrition. Such delay at least enables us to introduce, with necessary caution, and without undue or disturbing haste, the additional nutriment which the infant requires. This may be done with more confidence, because of the recognized aid which the natural ferments of human milk seem to offer in the digestion of other forms of milk.

This paper is presented to draw attention to the available methods of supplementing a more or less deficient secretion in order to bring about normal development in infants who at best can only receive a somewhat deficient breast-milk. The far too common course with such infants is to abandon the idea of utilizing the breast-milk, and immediately or rapidly to substitute bottle-feeding. This step is based on failure to gain weight, the evident dissatisfaction of the infant, apparent abnormality of the infant's stools, and the traditional assumption that these phenomena are caused by unsuitable breast-milk. It is exceedingly probable that much that has been accepted concerning the frequent occurrence of poor or injurious breast-milk must be corrected in the light of more recent investigation of these matters.

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DEFICIENT NUTRITION NOT INDIGESTION

After years of misapprehension, we should now recognize the simple truth that mucoid and somewhat frequent stools, varying in hue from dark green to golden brown, and containing but little fecal residue of milk, are the stools of a relative starvation, and indicate a scanty intake of breast-milk, and not digestive disturbance caused by a breast-milk of abnormal chemical composition. When this view assumes its place in medical teaching and practice, more infants will be started smoothly on the road to normal increase of weight, instead of being switched off in the direction of marasmus by early weaning and utterly misguided efforts to correct a digestion that only demands more breast-milk to digest. That the import of such stools, so easily confirmed by any open-minded investigator, should have escaped general recognition so long, seems almost incredible; yet it is the key to the right management of many infants.

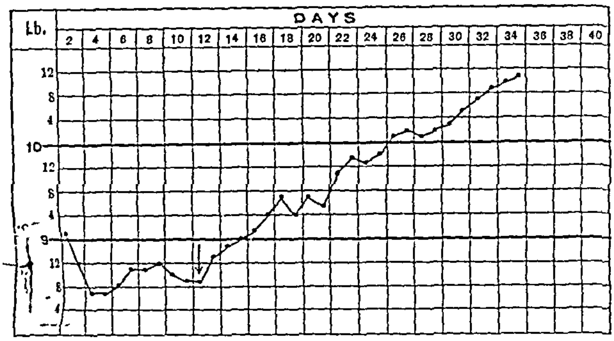

Fig. 1.—Daily weight chart of C. D., male. On eleventh day use of whey was begun, one ounce being given after each nursing. Across top, figures indicate days; down left side, weight in pounds.

IMPROVE THE MOTHER'S NUTRITION

If the trouble be not due to the simple failure of the infant to draw the milk from the breast, with few and rare exceptions, breast-milk which is considered poor or injurious is only the deficient secretion, possibly, of ill-functioning breasts, but more commonly of those of a human body which is improperly nourished or physically below par in other ways. It is irrational to suppose that such a body can always produce good and abundant milk; on the contrary, it is a matter of surprise that it does so as often as it does; but it is rational to the same degree to assume that, with a favorable diet and the restoration to bodily vigor, the quality and quantity of the secretion should improve. That this cannot be accomplished at once, and that in many cases a perfectly normal quantity of milk cannot be produced is but natural, yet the value to the infant of the available, even though somewhat inadequate, natural nourishment, should be neither underestimated nor forgotten. We may not at all times feel justified in waiting for this improvement in the breast-milk to take place, and pending a final judgment on its possibilities, something further may be necessary for the welfare of the infant.

EARLY PERIOD IMPORTANT

Of the various periods of infancy in which a stationary weight is a menace to the infant, that of the first few weeks of life is preeminent. While standing still it is really losing ground, because it is not acquiring the vigor and capacity to make the increased demands to which the breast, by normal physiologic adjustment, endeavors to respond. We need not search for any special dispensation of Providence which enables many a mother of twins to nurse both of her babies. The explanation is to be found in the response of the breast to the larger demand.

There is a further reason why breast-milk, even if somewhat deficient, should be utilized to the utmost in order that the infant may secure a good start. The worst type of marasmic infants, by common consent, is often found in those who have failed to receive breast-milk in the first weeks or months of life. This is undoubtedly because the digestive system, having only reached a certain stage of its development at birth, cannot without further growth of the body, receive its natural increment of digestive and absorptive power.

DEVELOPMENT SHOULD BE PROGRESSIVE

After the initial loss of weight in the newborn, which Hirsch's[1] careful studies show to be practically equal to that of the meconium and fluids voided, the development of the immature body should normally be progressive. When this does not occur for any considerable length of time, or having begun, ceases, experience teaches us that the matter may have a more serious aspect than that of a merely stationary weight, for where progress is lacking there may be also an actual deterioration in assimilative power. This seeming paradox reaches its full demonstration in the marasmic bottle-fed infant which, having long failed to gain, is often with the greatest difficulty brought to a point where it will renew its assimilation of food in sufficient quantities to resume normal growth. This should not be construed as meaning that there is an immediate danger to the infant in our continuing for a reasonable period every effort to bring about the mutual physiological adjustment between mother and child, so often delayed on the side of either by temporary and remediable factors, but that the policy should not be continued indefinitely.

During the waiting period, which may continue for ten days or two weeks, attention should be paid to the diet and hygiene of the mother, and weaning should not be lightly decided on if there be reasonable expectation of success. Nevertheless, in our management of these babies it is of the highest importance to conserve as far as possible and utilize the initial impetus to growths which is possessed by every newborn infant. The greatest aid is obtained from breast-milk, which contains, or may elaborate, principles which stimulate digestion and absorption. But to accomplish this end, it is rational that when the breast-milk of the mother for any reason, temporary or otherwise, proves insufficient to supply all the material needed for normal continuous growth, we should make up this deficiency by giving in addition some form of supplementary feeding.

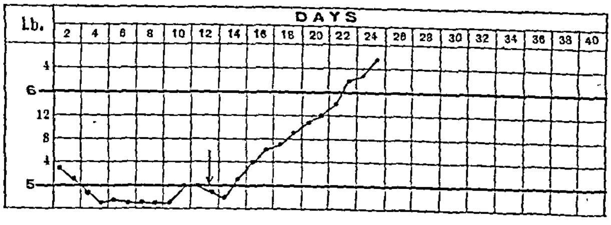

Fig. 2.—Daily weight chart of E. J., male. On twelfth day use of whey was begun, one ounce being given after each nursing.

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1. Berl. klin. Wchnschr., Jan. 3, 1910.

SMALL COMPLEMENTAL FEEDINGS

Most striking in my work along this line has been the discovery of how simple may be the food and how small the quantities which often serve under such circumstances to inaugurate a gain in weight. As little as half an ounce of barley water given before or after nursing has repeatedly proven sufficient to start the line upwards on the weight chart. This experience has shown conclusively how small a margin exists at times between insufficiency and sufficiency of the mammary secretion, and is worthy of serious consideration by those who have long been in the habit of jumping to the conclusion that because the infant did not gain there must necessarily be something seriously wrong with the breast-milk, and have consequently discarded the breast-milk entirely for the more hazardous use of exclusive bottle-feeding.

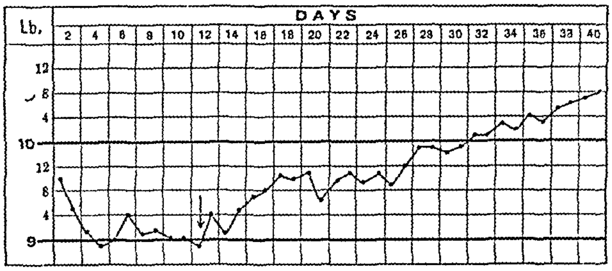

Fig. 3.—Daily weight chart of A. B., male. On eleventh day use of whey was begun, half an ounce being given after each nursing.

It has been my duty and the privilege to impress the folly of the latter course on the profession in several papers dealing with other phases of this subject; but while the doctrine of the conservation of maternal breast-milk has made considerable and gratifying progress, it is evident that it is not widely practiced and that its importance and its simplicity must be made clearer to the profession at large.

Knowing that the margin between insufficiency and sufficiency of the mother's milk is often a narrow one, and granting for the moment that suitable attention to the mother's diet does not promptly overcome the difficulty, I deem it often unwise while continuing these efforts to lose further precious time in awaiting the result, but would advise supplementing the maternal breast with small artificial feedings. It makes little difference whether this is done with the expectation that the secreting power of the maternal breasts will eventually be entirely sufficient for the infant or whether the probabilities are that only an important part of the infant's nourishment can be derived from the mother. The purpose at this time is to sustain the natural impetus to growth, increase the infant's weight, and so continue the development of the digestive system. Every half pound and pound of weight gained at this time increases the infant's chance of life.

While later in lactation it may be necessary to make this supplementary food take the place of the breast at one or more of the nursing periods, this is not the best course with the recently born infant. For these infants, where it is of supreme importance to maintain the frequent periodical suction of the infant at the breast in order to furnish the full natural stimulation to increased secretion, it is better to give small bottle feedings as soon as the baby has finished nursing. These *post-cibum*, or "p.c." feedings I prefer to designate as "complemental feedings," to distinguish them more readily from "supplementary feedings," inasmuch as the latter term has by long usage been applied to those bottle feedings which are given occasionally during the day to nursing infants, instead of the breast.

REQUISITES OF COMPLEMENTARY FEEDINGS

There are two chief requisites to be considered in giving complemental feedings, and these are: first, that they shall furnish food in such simple and assimilable form that they will not disturb the digestion of the infant; and, second, that they shall be so small in quantity as not to exceed, when added to the previously ingested breast-milk, the normal capacity of the stomach at this age. A transgression of either of these principles may readily defeat our purpose, which, as the term complemental implies, is simply to fill out the nutritional value and quantity of a partially deficient breast-milk.

For this purpose, complemental feedings after each nursing, of one-half ounce, or later one ounce, are usually sufficient for recently born infants. The increase to one ounce may be made when the growth and age of the infant indicate a larger stomach capacity, or earlier if the residue in the stools or the weight of the infant before and after nursing demonstrates a larger deficiency in the breast-milk.

MATERIALS FOR COMPLEMENTAL FEEDINGS

Materials for these small complemental feedings which have met the indications have been barley water, whey, or one of the proprietary combinations of maltose, dextrose, and dry condensed milk—the latter in the proportions of one-half of a fairly level teaspoonful to one-half ounce of boiled water. Of these, barley water is naturally limited in its usefulness to instances in which the deficiency of the breast-milk is not very great, and since its food value is small, it cannot be used alone for a very long period. It is, however, not only an aid to the proper digestion of certain over-rich breast-milks, but is also an excellent medium for the addition of cows' milk, if the subsequent progress of the case proves that with further failure of the breast-milk more food is necessary. Moreover, nursing infants so fed *make the* transition from breast to bottle feeding without *noticeable* difficulty.

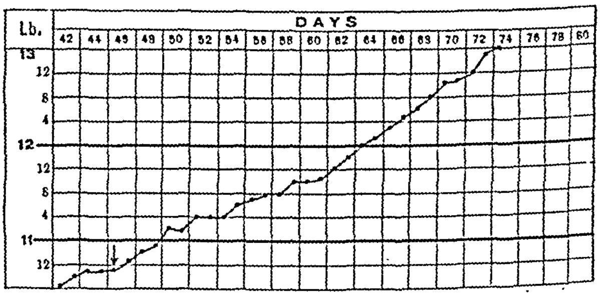

Fig. 4.—Daily weight chart of A. B. (Fig. 3), continued. Whey discontinued after forty-fifth day, the child being given the breast only.

Whey and the maltose-dextrose-milk preparations have proved most useful in my hands, inaugurating prompt gains without attendant disturbances of digestion, and may be continued for considerable periods if the breast-milk holds its own. They may, not infrequently, be discontinued when it seems probable that the mother is able to furnish all the breast-milk needed, but if the nursing gradually fails they should, of course, be replaced by suitable modifications of fresh cows' milk, since neither is suitable to maintain well-rounded development when given exclusively.

Not only is weaning often undertaken on mistaken and insufficient grounds, but the argument is frequently advanced that where success in breast-feeding appears to be doubtful, better results are obtained by beginning total artificial feeding soon after birth. This argument can obtain only when the artificial feeding of the infant is in the most expert hands, and the infant can remain under close supervision for a long period. With the vast majority of infants such supervision, for many reasons, is not possible. The pitfalls of unsupervised bottle-feeding are many and the danger of subnutrition or overfeeding great. The safer progress of the infant receiving breast-milk needs no argument. Breast-feeding, at least in competent part, can be established in many cases which at first seem rather unpromising, and any method which enables us to promote the normal growth of the infant by utilizing the physiological nutriment from the mothers' breasts while we are endeavoring to establish its permanency, is worth trying.

Since it will undoubtedly be admitted that to inaugurate a gain in weight in the newly-born infant is a long step toward its ultimate welfare and subsequent expectation of life, these measures are submitted for your consideration at this time.

807 Madison Avenue.

FEEDING OF FATS TO INFANTS AND THE DIFFICULTIES ENCOUNTERED *

CHARLES DOUGLAS, M.D.
Professor of Children's Diseases in the Detroit College of Medicine
DETROIT

A great deal has been written during the last three years regarding the propriety of feeding fats to infants during the first year. When the percentage method of feeding was introduced all the teaching was on a plan of imitating very largely the percentages of fat protein and sugar in human milk. Many elaborate formulas were made and appeared in pediatric text-books showing how low and high percentages of each of these ingredients could be combined in a milk formula. In the more recent text-books fewer of these formulas appear. All physicians who are paying close attention to feeding young infants during the first year soon come to realize that the percentages of each food must be adjusted to the infant's digestive power rather than that the infant should be adjusted to some formula which may be thought suitable for an infant's dietary.

Experienced pediatrists realized that the first idea of imitating with cow's milk the proportions of fat protein and sugar in human milk would rarely give success. Consequently they found it necessary to give to each infant only that amount of each ingredient which the results, as shown by the infant's comfort and growth, were found to be suitable. Having once seen this necessity it soon became apparent that the amount of fat which could be fed to infants varied very much with their digestive power, their age and previous disturbances of the intestinal mucosa.

About three years ago occasional articles appeared in the pediatric journals reporting instances in which an infant could digest no fat and its dietary consequently was constructed entirely of protein and carbohydrates. These articles continue to appear occasionally. It is not my object to report more of these cases, but rather to consider the digestion of fat in its various proportions and the bad effects resulting from imperfect digestion of fats and the foods containing them. Consequently these foods must be limited or avoided entirely.

Some ten years ago, when trying to follow the teachings on percentage feeding, I encountered great difficulties in feeding infants with the 4 per cent. proportion advocated so much at that time, it being the proportion in human milk. Nearly all physicians had the same experience, yet some continue it still. A great wave of high percentage fat feeding was spread through the country by physicians generally, who read this teaching, but had little opportunity to practice it. The result was that all pediatrists found the parents soon thoroughly imbued with the necessity of feeding cream liberally to their infants on the ground that, as they thought, it was the best part of the milk, and they were also taught that the free use of it would overcome the constipated condition of the bowels so much to be contended with in hand-fed infants. This practice still continues among the laity, and a large part of the medical profession also, and is *the source of a great deal of harm to the little* ones, and in only rare cases is it beneficial from a cathartic point of view. On the contrary, in most infants it causes a very obstinate constipation.

Newly born infants generally digest fat more perfectly during the first few weeks of their lives than they do in later months. Very rarely will an infant digest perfectly more fat after the second month than it has done prior to that time. In my experience there are very few of them who will at any time digest more than 2 per cent. As I do no obstetrical work, I have only a very limited number of infants to feed continuously from birth. Most of my patients are infants who have been imperfectly nursed or improperly fed for several weeks before I see them. I find that these infants have almost invariably been fed with a too high percentage of fat and that either they were born with imperfect fat digesting power or very rapidly acquired it through overfeeding of it. My experience shows that over-feeding either fat, protein or sugar will very soon materially limit or entirely destroy the power to digest that food. In most of these cases which come to me I have been compelled for many years to reduce the fat to less than 1 per cent. and in very many of the cases to remove it entirely as far as it can be removed from milk by the gravity process. The amount left in gravity milk after many hours' exposure to ice or cold air of winter is less than one-half of 1 per cent. Even this amount causes difficulty to some infants, and I have found that the *fat-free milk obtained by the separator process* was preferable in some families to that obtained by the gravity process. This appears to me to be due to a lesser amount of fat in the separated milk and the better condition of the sugar in the newer milk from the separative process. I always find less difficulty in feeding fat to normal infants during the first months than to those who are older.

It is a serious mistake to increase the proportion of fat in food for its laxative effect. If a small increase of one-half of 1 per cent. does not promptly produce some softening effect on the stools no further increase should be made, as usually it decomposes in the bowel and poisons the child or forms crumbly, dry, soapy stools, which increase the constipation. It is very desirable that each infant should receive the highest percentage of fat which it can digest properly. It is equally important that the fat should not be increased when there is the slightest evidence of its imperfect digestion. There is no food the digestion of which is so quickly destroyed as fat. There is also no food which will so completely check the growth and development of an infant when it is imperfectly digested. It requires less than one-half of 1 per cent. of imperfectly digested fat in an infant's dietary to prevent it from growing, to disturb its sleep, to destroy its color and to pave the way for marasmus and other forms of malnutrition.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

The early and prompt recognition of fat indigestion is absolutely necessary for successful infant feeding. The physician must have clear ideas on this subject and have the strength of his convictions in order to overcome the strong desire of all mothers and nurses to feed cream too freely to their infants. Imperfect digestion of fat is shown by the variable and lessened appetite of the infant, by the gassy condition of the stomach and bowels, by the disturbed sleep, by the pale-yellow color of the skin, by the tendency to vomit from one-half to one hour after feeding, by the offensive odor of the stools, by their pale, greasy, rancid-butter, or dry, crumbly appearance, and by the failure of the infant to grow. Any one of these symptoms is enough evidence to the experienced pediatrist that the proportion of fat in the food is too high and that success demands its reduction or entire removal. In the young infant during the first few months this difficulty of fat feeding applies to the milk fat only. As infants become older and able to take other foods the proportions of fat which these other foods contain will usually govern their suitability in preparing the infantile dietary. In the nitrogenous line experience shows that the poor milk fat digestor cannot take the yolk of egg or the fat of oatmeal.

Where an infant's milk digestive power has been reduced through over-feeding of milk it often becomes necessary to substitute egg-albumen for this deficiency. Care must always be taken to commence with the albumen only and avoid the yolk, as the latter contains the fatty part of the egg. In feeding broths to such infants care must always be taken to remove all fat by cooling it before feeding, or, better still, to feed beef juice made by the cold-water process. The same difficulty applies to the use of cod-liver oil in most cases.

In selecting a suitable carbohydrate for these infants with defective fat digestive power, experience shows that oatmeal can rarely be fed, as it contains over 6 per cent. of fat. My experience is that the fat of oatmeal acts similarly on the child's digestive organs to the fat of milk. There is scarcely an infant who has lost the power to digest milk fat who can take any proportion of oatmeal.

Barley contains over 2 per cent. of fat. These infants do not show the same difficulty in digesting barley fat that they do with the oatmeal fat, but there is a large number of them who are unable to appropriate the fat of barley, and consequently fail when fed barley flour as a part of their dietary. These facts are very much to be regretted, as these two carbohydrates are very valuable and give excellent results in those infants who can digest them perfectly.

My experience is that these infants with feeble fat digesting power succeed better when fed rice starch than they do with any other. Rice contains less than one-half of 1 per cent. of fat, a low percentage of protein but a high and easily digested proportion of starch. After several years' experience in using the different forms of starches I find very few of these infants with weak or damaged digestive glands who cannot metabolize a proper proportion of rice in their daily dietary.

When an infant cannot appropriate fat it is compelled to exist and grow on two foods only—proteins and carbohydrates—when Nature designed three as necessary for growth and development. The result is that these infants always make slow progress during the first six to eight months of life. As their dietary must be made up of proteins and carbohydrates it is important to select those containing the least fat.

The most suitable proteins are found in nitrogenous foods, skimmed milk, white of egg and meat juice. In these the fat is separated with little difficulty; but when we look for a carbohydrate free from fat we instantly meet with difficulty, as Nature has so mingled fat with the protein and carbohydrate in all cereals that it is impossible of such separation as can be accomplished in the nitrogenous foods. The best we can do is to select that cereal which contains the least fat with no other objectionable food feature.

A look at the chemical composition of the cereals suitable for infant foods shows the following, according to the latest reliable analyses of Wiley, Bryant, Atwater and others:

	Proteins, per cent.	Fat, per cent.	Carbo-hydrates, per cent.	Crude fiber, per cent.
Wheat flour	14.	1.90	71.20	.....
Rye	12.25	1.50	71.75	2.10
Barley	11.00	2.25	69.55	3.85
Oats	11.73	6.04	55.43	10.83
Corn	10.00	4.25	71.75	1.75
Rice	7.50	0.40	78.80	0.40

These figures show that rice contains the least fat and largest amount of starch of all cereals. It also shows the smallest percentage of crude fiber. As delicate infants usually show a tendency to loose, soft stools, which are inimical to growth, this latter feature is important, as crude fiber increases the activity of the intestine and consequent watery stools. Experience shows that rice starch is the most easily digested of all starches and equally nutritious with the best of them.

980 Jefferson Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. COTTON, DOUGLAS AND SOUTHWORTH

Dr. John Zahorsky, St. Louis: For many reasons the mother's milk is deemed inadequate and the mother is advised to give the infant one or two bottle feedings a day. Of course, it is convenient for the mother, but I think this giving of one or two bottles a day is the chief cause for producing a lack of breast-feeding. It gives a long interval in which the ducts of the breast become distended, resulting in a lessening of the activity. For several years I have insisted on having the mother nurse the baby every time, and if the mother's milk is deficient I order a complemental feeding after nursing. This conserves the normal maternal nursing better than supplemental feeding. If a breast is deficient in activity, we must keep up the stimulus to that breast.

We have been taught to give the new-born infant low proteid and comparatively high fat, and this method is frequently a success; but recently we have been trying to get the nutritive ratio much higher and the difficulty we encounter is due to the fact that an excess of casein will lead to soap stools, in that it diminishes the digestion of fat. Now, shall we try to give the young baby a low protein and comparatively high fat percentage, or a high protein and a comparatively low percentage of fat? European authorities deny that there is such a thing as a casein stool. I am convinced that American investigators are correct, that rarely there is "curd" in the stool which has casein as a central nucleus. The most common coagula in stools are those of soaps or fatty acids.

Dr. Effa V. Davis, Chicago: I agree with the practical point brought out by Dr. Southworth; I have used this method several years. In the last few years I have discovered that it is in the afternoon and evening that the mother gives the least milk; frequently in the morning she will give a sufficient quantity. In such cases I compromise with the patient and ask her to give complemental feeding in the afternoon. That can be determined, if there is any doubt about it, by weighing the baby before and after nursing.

I want to compliment Dr. Cotton on some of the points brought out in his paper. It seems to me that civilization is hardly civilization if it deteriorates the race. Environment has much to do with development, and I hardly care to take the time to go into a discussion of monogamy, but there is a necessity for pointing out these facts in their influence on breast feeding. It is an easy matter to tell patients what to do, but the difficulty is to have these things done, for there are two members in the family, the husband and the wife. If Dr. Cotton is right then we must take into consideration the sexual relations in the result to the nursing infant, and what sexual relations have to do with the degeneration of the child. I try to convince my families that these things must be taken account of and that they should not be heedless in reproduction without realizing what it means. One Chicago physician illustrated the point that frequent reproduction does not necessarily imply higher intelligence or physical ability, by citing the conditions that exist among tame and wild ducks. The keen, clever, courageous wild duck reproduces its kind once in a season, but the tame duck, which procreates the year round, is a stupid, lumbering creature that can hardly fly over the garden wall.

Dr. J. P. Sedgwick, Minneapolis: I think that those of us who have tried complemental feeding have found it of great value. I think we can well use even more accurate methods, in difficult cases, *i. e.*, weigh the children before and after nursing and then supplement the breast milk with enough food to come somewhere near the caloric requirement. I do think that is a valuable check, although we cannot feed the child exactly according to its caloric need. The French have recently done much along this line and they state that if we want to keep up breast feeding we must keep up the evacuation of the breasts by the complemental method. If we wish to stop the flow of milk we should give supplemental feedings.

Dr. John Lovett Morse, Boston: I want to come to the rescue of supplemental feeding. There is no doubt that all Dr. Zahorsky has said is perfectly true, but there is another side to the question. I have found that the modern woman, with all her social and family duties, has to have more than two or two and a half hours at one time away from home, and I have found that she does better and can nurse her baby longer with a supplemental feeding than if she tries to nurse it every time.

In considering the disturbance of the digestion of fat in babies we must take into consideration whether we are dealing with a well baby or with a sick baby. The conditions are entirely different. We have heard a great deal from the Germans about the dangers of fat. In the last article I saw in a German magazine it was claimed, however, that the primary cause of disturbance was the carbohydrates and that the disturbance of digestion of fat was secondary.

Dr. C. F. Wahrer, Fort Madison, Ia.: While I agree with Dr. Zahorsky, I want to sound a note of warning. It is so much easier to put some food in a bottle and turn it over to some member of the family to feed the baby while the woman is thus allowed to go about her various duties, that there is great temptation to use this method of feeding. In case the child dies, we are taught that administration of 20 grains of citrate of potash 3 times daily will aid in drying up the milk. Now careful observers at Johns Hopkins advise doing nothing at all, but let it dry up, and careful experiments have shown that if let alone thus the breasts dry up sooner. There is danger in supplemental feeding. Let us teach the mother to give the child all she can give and then, if necessary, give it complemental feeding. We have lazy mothers, incompetent mothers, and mothers who are bound up in their social duties, who are only too glad to turn the child over to the supplemental bottle. In rural districts many people bring up their babies on cows' milk and add half as much again of cream and the children do well. It is wonderful on what things some children will thrive and grow fat.

Dr. Jules M. Brady, St. Louis: Since the publication of Czerny and Keller's paper, I have made observations along this line and the clinical results prove conclusively that babies fed low fat percentage, particularly during the first two months, do far better than those fed on a comparatively high percentage of fat. The use of top milk in making dilutions has not been so successful in my hands as the use of skim milk, with its 0.5 per cent. of fat. As to the curds in infants stools the fat alone and proteid alone seem not responsible, both must be present. When fat-free acidified milk is given curds never occur, as the proteid being in the form of the lactate is not coagulable.

Dr. C. G. Kerley, New York: In almost every discussion on nursing and infant-feeding, the supposed indifference of the young mother, the so-called educated young mother, or the young mother in good society, whatever this may mean, is strenuously berated. By those who know little or nothing of New York City, all sorts of vice and corruption are supposed to abide in that city, but my observations of the mothers of New York City are very extensive, and I have found that the young mother who has had the best opportunities in life, makes the best mother, and when this young woman does not appreciate her duties in the matter of nursing and supervision of her children, it is usually the fault of her physicians and other advisers. Such a young woman has been educated sufficiently to appreciate scientific principles, and when it is explained to her that a baby's stomach is intended to digest mothers' milk and not cows' milk, and how the organ is adapted to human milk, or how human milk is made to fit the organ, no one will appreciate it more quickly and act on it more satisfactorily than the educated young mother; but the physician must be sufficiently well informed to explain this. Then this so-called high-strung mother will nurse her baby, or if she is unable to do it, she will see to its every want and fulfill her function in every respect to the best of her ability. It is difficult for me to understand why a young woman, with all the finer instincts of culture and education, should, on the advent of a child, be transformed into a creature who neglects her offspring, ranking her lower than the lower animals. In a very active work for twenty-two years among every possible class of mother, I cannot understand why I have not seen some of this supposed indifference and neglect.

If you wish one of these young mothers to discontinue her nursing function, then have her discontinue her former method of life. Tie her down to the baby and keep her there and very likely the nursing will be short-lived. She has been accustomed probably to an active girl's out-of-door life, as every girl should who has an opportunity. I have these mothers continue their activities, horseback riding, golf, afternoon teas, the theater, surf-bathing; in fact, one of the secrets of continuing a reasonably good milk-supply in a nursing mother, regardless of station, is to have her lead a happy and congenial life, in both a social and an occupational way. The diet practically should be the diet to which she was accustomed before she became a mother. One cannot take a high-class young mother and make a drudge and an animal out of her with success, just because she happens to have a baby. In order that she may be a successful mother, there will have to be one or two supplemental feedings a day. The statement that one bottle or two bottles a day, supplied the baby in order that the mother may be given more freedom, is a means of gradually curtailing the milk supply or cutting short the nursing period is absolutely without foundation. On the contrary, by this method I am able to have the mother continue nursing longer by 2 or 3 months than when she is required to nurse the child at each feeding.

Dr. A. C. Cotton, Chicago: I never listened to a discussion on infant-feeding where there was so much good sense manifest and so little foolishness. I don't know of anything that was overlooked except that perhaps there might have been a little more emphasis laid on the utilization of mother's milk, even if it be in extreme reduction. There should always be an effort made to stimulate the lacteal secretion; even though there be but two or three grams of it, it is worth saving. I think many of you will remember a paper presented by Dr. Wentworth, of Boston, on the exciters of secretion; it was very suggestive. It is fair to assume that there is something in mother's milk which acts as an exciter to the digestive functions that we cannot imitate in any artificial food. Even only a gram or two of mother's milk may be sufficient to promote digestion. That was the only point that I did not think received sufficient emphasis.

As to the digestion of fats, I presume we shall never come to an agreement. Dr. Morse hit it exactly on the head when he said enough was enough and too much was too much. No exact rule can ever be laid down for the individual baby. The differences between the fat of cows' milk and the fat of maternal milk are sufficient to prevent any comparison as to quantity ever being attempted.

Dr. Charles Douglas, Detroit: I use complemental or supplemental feeding according to the needs of the woman. I may use the supplemental method until the woman recovers her strength and is able to do the whole work herself. The point of stimulating the breast at intervals is good, but that stimulation may be once in 2 hours, or once in 4 hours, or once in 6 hours, and if the woman is worn out or exhausted, I think she does better with 4 or 6 hours' rest. In a strong woman I think two hours is better. But the woman herself usually argues that substituting every alternate meal is better for her. I think that as a regular practice it is not good, although I continually do it with women who have to get away from the house a few hours. Putting a young woman in the house and in charge of a baby when she is not educated along that line is a great tax, and if she can get a certain amount of rest it is a great advantage.

Dr. T. S. Southworth, New York: I employ supplementary feeding in many cases and should limit the use of complemental feedings to the first few weeks of life, while trying to get the child started on the upward road of growth and nutrition. I make the largest use of supplementary feedings later. I am glad Dr. Davis spoke of a fact that has not been mentioned in certain text-books, namely: that in the afternoon and evening the nursing mother is liable to have the least milk. Any one who follows this out can easily recognize the fact by weighing the children in the morning and in the afternoon and evening, both before and after nursing. It is a matter we should remember in giving nourishment to the mother in order to improve the breast milk and also with reference to the needs of the infant itself. When with deficient milk it is necessary to substitute bottle feedings in part for the breast, I am accustomed to have the mother nurse, particularly in the afternoon, each time from both breasts, thus maintaining the stimulation of the breasts. This is satisfactory in keeping up the flow of the breast milk so long as the number of bottles does not exceed the number of nursings. The mother nurses from both breasts at one nursing and gives the bottle at the next feeding. The only difficulty with Dr. Sedgwick's method, which would be excellent where one could weigh the child before and after nursing and adjust the amount accordingly, is that it would be too complicated to employ in very many cases.

Creosote in Bronchopneumonia.—Creosote is indicated in all stages of the disease. It should be prescribed in small doses several times a day. The tent made of bed-sheets hung around the bed and moistened with creosote, oil of eucalyptus and the like is of service, especially in tracheobronchitis.—H. B. Sheffield, in *Merck's Archives.*

YERSIN-ROUX SERUM IN THE TREATMENT OF PLAGUE *

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HONOLULU, T. H.

By permission of Dr. Ramus, chief quarantine officer of the Territory of Hawaii, I submit for consideration the following report on the treatment of three cases of plague, by Yersin-Roux serum.

The action of Yersin-Roux serum in the treatment of this disease has been so greatly a matter of dispute among those who have used it that this report is given in the hope of causing at least a revision of opinion among those who condemn it as useless.

My first experience in the treatment of plague by means of this serum, in 1907, caused me to regard its use most favorably. Unfortunately, the records of those cases, about 20 in number, were thought by me to be in the possession of the Territorial Board of Health, but cannot now be found. But the three cases I am about to report show admirably the chief points observed at that time, and I am enabled to use them as types illustrative of the action of the serum in cases of plague.

The three patients were Russian immigrants, all of the same family: the father aged 45, one daughter aged 15, and another daughter aged 8.

For the purpose of classification I have designated the older daughter as Case 1, the father as Case 2 and the younger daughter as Case 3.

Case 1.—Russian girl, aged 15.

History.—I first saw this patient at the Immigration Station on June 7, 1910, at about 11 a. m. She had complained of headache and nausea the day before, with some fever, and her illness was attributed to the eating of preserved eggs, which her father had brought with him from Siberia. When I saw her, at the request and in consultation with Dr. Ramus, she was in bed, feeling too ill to be about. The facies at once impressed me as suggestive of plague: the wrinkled brow, half-closed eyes, and drooping mouth united in producing that "worried look" so frequently accompanying plague.

Examination.—A swelling was made out in the neck, under the angle of the jaw. The tumor was about the size and shape of a hen's egg—indurated, but uniformly smooth to the touch, and showing no evidence of its multiglandular structure. It was exceedingly painful on manipulation, although there was but little redness or edema of the skin. I have repeatedly noticed that the skin over a cervical bubo is not nearly so frequently affected with redness and edema as the skin over plague buboes in other situations. Temperature was 102 F., and in view of the fact that the girl's father was in a similar condition (but with a bubo in the right groin, in which a bacillus resembling that of plague had been found), a provisional diagnosis of plague was made. The gland was not punctured or incised for examination, however, as owing to the difficulty in securing healing, or even preventing sloughing, in buboes so treated, I have long since avoided tampering with a bubo in the cervical region, where the occurrence of sloughing can so easily endanger so many important structures.

Treatment.—The patient was removed to Quarantine Island, and on June 8 I was detailed by Dr. Ramus to take charge of her and the other patients. On this date her condition was much more serious, the hebetude having increased, and there being considerable pain in the chest on the left side. The percussion note over the whole of the front of the chest as far down as the cardiac dulness was diminished in resonance, there was a shortening of the expiratory murmur, and some fine subcrepitant râles. The advisability of administering serum was decided on, and at 6 p. m. she received an injection of 30 c.c. The supplementary treatment consisted of a tablespoonful of whiskey in a glass of milk every 4 hours, alternating every two hours with 5 minims of tincture of digitalis and 1/40 grain of strychnin.

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* Read before the Hawaiian Territorial Medical Society, July, 1910.

Course of Disease.—June 9: She slept well, and her temperature had fallen from 102.2 (the evening before) to 99.6 F., the pulse, however, remaining the same, 120, and the respiration increasing from 32 to 36. By evening, the temperature had risen to 103 F., and pulse was 128 and respiration 38. The progress of the involvement of the lungs was not much further than the day before, although the left apex was involved.

June 10: There was no marked fall, as occurs in the mornings in favorable cases, instead there was a fall of but two-tenths of a degree; pulse was 120, respiration 36. By evening the temperature had risen to a higher point than it had yet reached, 104 F.; pulse was 140, respiration 38. The patient became delirious about 8 p. m., muttering and picking at the bedclothes.

June 11: At 6 a. m., temperature was 105.6 F., and she died about 8 a. m.

Autopsy.—Post-mortem examination showed macroscopic evidences of plague. The enlarged cervical gland was removed; it was deeply infiltrated with a hemorrhagic exudate, being very dark-red in color, and extremely friable.

The pleura was adherent to both lungs by a fibrinous exudate, and so firmly attached that some difficulty was experienced in removal of the lungs.

The greater part of the lower lobe of the right lung was congested, but not entirely so, the evidences being of a lobular rather than a lobar pneumonia. The upper lobe of the left lung, while not so extensively involved, presented similar conditions. The pericardium was distended with bloody serum. The left ventricle of the heart was empty except for the presence of small chicken-fat clots, which condition also obtained in the right ventricle. The liver was congested, but presented no mottled areas on its surface, although evidences of fatty degeneration were evident on section. The spleen was greatly enlarged, deeply congested, and friable. The kidneys were enlarged, with undue prominence of the pyramids, which were congested. There were evidences of glomerular hemorrhage under the capsule, which stripped easily.

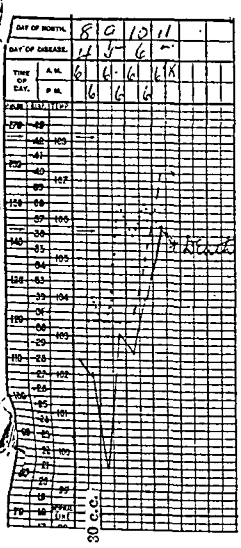

Chart 1.—Temperature chart in plague (Case 1), showing effect of serum, as described in text.

Bacteriologic Examination.—Smears from gland, lungs and spleen showed typical plague bacilli. A guinea-pig was inoculated with a piece of lung and another with a piece of spleen, both on June 11, 1910. Both pigs died on June 16, and from them the bacillus was recovered in pure culture.

During the progress of the disease the condition of the lungs did not present the characteristics of a plague pneumonia. There was not the rapid and progressive involvement of the lungs I have found to occur in cases of plague pneumonia not treated with serum, and in which, from the involvement of a single or few lobules with a pneumonia of the bronchopneumonic type, there is in 24 or 36 hours an involvement of a whole lung (or both lungs), with transition to the lobar form of pneumonia. This failure of transition I have noticed before in cases treated by serum.

In 1905 I read a paper in which I pointed out this rapid involvement and transition from a lobular to a lobar pneumonia in from 24 to 36 hours (with the characteristic sputum: "islands of bright red blood, about the size of a quarter, floating in a copious frothy liquid") as being, to me, diagnostic of plague pneumonia.

I advanced the theory that at first the pneumonia was due to an infection through the bronchial tubes, thus producing a bronchopneumonia; but a systemic infection soon supervenes and there is a transition from the lobular to the lobar type of pneumonia.

To me it is a very interesting fact that if serum is given in pneumonic plague, before the lobar form of pneumonia has developed, it frequently happens that the pneumonia retains its lobular type throughout the course of the disease. Furthermore, in fatal cases of bubonic plague (with involvement of the lungs) it is customary for the disease to lose its bubonic type, and to assume the characters of the pneumonic type—death resulting, as I suggested some years ago, as much from lack of lung tissue, to carry out its function, as from toxemia. When serum has been administered in these cases, however, it frequently happens that the disease, though ending fatally, retains its bubonic type, death resulting from toxemia. Both these occurrences seem to prove that the serum prevents a systemic infection of the lungs, by its action on the circulating blood.

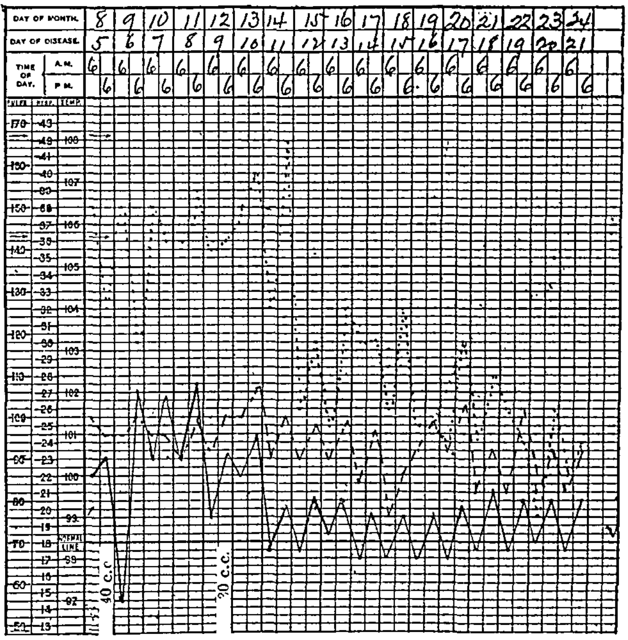

Chart 2.—Temperature chart in plague (Case 2).

That a patient with lung involvement should invariably die, in spite of the use of the serum, is not difficult of explanation, even when as much as 100 c.c. are administered. The lungs afford such an extensive and easy means of entrance to the circulation, for toxins, that an explanation is thus offered.

CASE 2.—Russian man, aged 45.

History.—Was first seen by me at the Japanese Hospital on June 7, where he had been taken from the Immigration Station. He presented the facies, and decubitus of bubonic plague—lying on the affected (the right) side, with the right thigh flexed on the abdomen.

Examination.—A bubo, about the size of a hen's egg, was found in the right groin, directly over the femoral muscles, and involving the horizontal chain of glands. The bubo was very tender, and some redness and edema existed in the skin over it. There was slight hebetude and fever, 102 F. A history was given of his having been ill for several days, and of having had an epistaxis on the preceding day. The occurrence of epistaxis, with a febrile condition, has been seen by me as commonly in plague as in typhoid fever. The bubo had been aspirated twice for bacteriologic examination with negative results. The case, however, was so suggestively one of bubonic plague that Dr. Ramus and I decided it would be advisable to remove a portion of the affected gland for examination. This was done, and when taken to the laboratory, and a smear made, the specimen showed the presence of typical plague bacilli.

Experiments.—A portion was inoculated in a guinea-pig (1), which died on June 15, and the bacillus of plague was found in the spleen. A portion of the spleen of guinea-pig (1) was inoculated into a mongoos (1) and into a guinea-pig (2). The mongoos (1) died in 48 hours—on June 17—and the bacillus was recovered from its spleen. Guinea-pig (2) died on June 17, and the bacillus was recovered from its spleen. A portion of the spleen of guinea-pig (2) was inoculated in a mongoos, which died in about 8 hours, and the bacilli were recovered from its spleen.

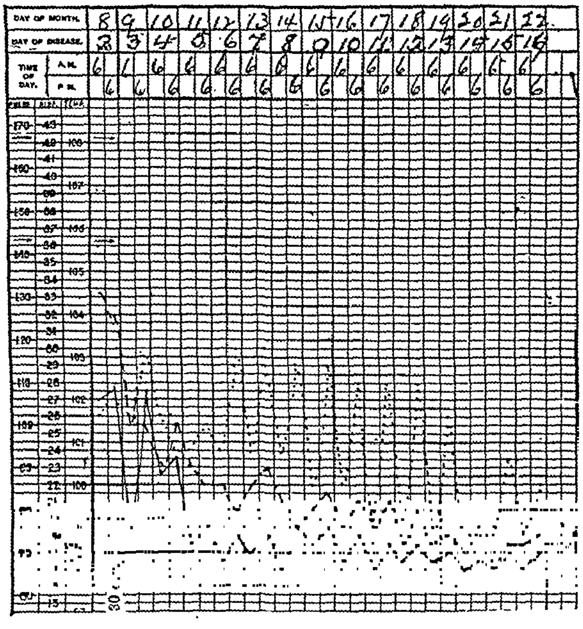

Chart 3.—Temperature chart in plague (Case 3).

Treatment.—When next seen by me, on June 8, the man's condition was considered serious—there was more restlessness and increasing hebetude, and it was deemed advisable to administer serum; 40 c.c. were injected at 6 p. m. At that time his temperature was 100.4 F., pulse 96, respiration 32.

Course of Disease.—June 9: He had a very good night, sleeping most of the time, and in the morning his temperature *had fallen to 97 F., the pulse remaining* at 96, but the respiration increasing to 38. There was, however, no involvement of the lung, as was feared from the increased rate of respiration. The same supplementary treatment was adopted in Case 2 as in Case 1. In the evening he had a temperature of 102 F. and pulse 98, the respiration falling from 36 to 30.

June 10: He had a good night, sleeping most of the time, but in the morning his temperature was still high, 102 F., and on the morning of June 11 the temperature was slightly higher, 102.2 F., pulse 90, respiration 36. Serum was ordered given on this date, but there was none on hand, and as it was a holiday none was procurable, so the serum was not given till the following day.

June 12: Although in the morning the temperature had fallen to 99 F., the pulse was bad, with slight dicrotism and still rapid, 94; respiration was 36, but no further involvement of the lungs was manifest. There was in addition increasing hebetude, so that the man's condition was alarming. Thirty c.c. of serum were given at 4:30 p. m.

June 13: While the temperature remained high (100.8 F.) the general condition was improved. The man was brighter, and had slept fairly well. The reaction to the serum did not take place till the succeeding morning (or about 36 *hours after administration), a delay in its action which I have* often observed.

June 14: The temperature fell to normal, pulse to 90, and the respiration from 42 on the night before to 26.

After this second crisis, the patient has steadily improved, and has had no adverse complications beyond some slight sloughing of the bubo.

Case 3.—Russian girl, aged 8.

History.—This patient was seen by me at the Immigration Station, in consultation with Dr. Ramus, on June 7, 1910, at the same time as Case 1. She complained of headache and lassitude, sufficient to confine her to bed. Her temperature was 103.5 F., and she had only felt ill that morning.

Examination.—A small bulla, about the size of a ten-cent piece, was found on the inner side of the right ankle. Its characteristic smoky blue color, and surrounding areola of redness, left no question in my mind that it was the site of inoculation of plague by a flea or other agent. There was some tenderness over the glands in the right groin, although no definite bubo could be made out, simply a doughy thickening, such as occurs when a bubo is forming. Some serum was taken from the bulla and, as intimated, it was found to yield the plague bacilli as perfectly as if a pure culture.

Experiments.—A guinea-pig was inoculated from the serum, and it died on July 12, but gave in smears from glands (which were enlarged) and spleen only amorphous forms of *the plague bacillus. A culture was made from the spleen,* which on examination after 24 hours showed typical bipolar-staining bacilli. A second guinea-pig was inoculated with this culture on June 15 and it died on June 20, showing typical plague bacilli in specimens from the spleen.

Course of Disease.—When the patient was again seen by me on June 8, her temperature was 102 F., pulse 130, respiration 26. There was then a definite bubo in the right groin. There was increasing lassitude and headache, and she was given 30 c.c. of serum at 6 p. m.

June 9: She slept well, and her temperature had fallen to 98.8 F., pulse to 102, respiration 26. There was no involvement of the lungs. Supplementary treatment was carried out as in the other cases. In the evening her temperature again rose to 102 F., but the pulse remained at 102, respiration being 30.

June 10: There was a fall in temperature to 100.2 F., pulse 90, respiration 26. There was a slight rise that evening, but on the next morning (June 11) the temperature had fallen to 98.6 F., and thereafter continued, with remissions of half a degree, almost normal. She had no complications, beyond some pain in the bubo, but felt perfectly well after June 11. The bubo resolved without suppuration.

These three cases present so perfectly the three groups into which fall the vast majority of cases I have treated with serum, I believe their report to be of value to every physician liable to be called on to treat a case of plague.

Case 1 illustrates that group in which the serum fails to accomplish a cure; Case 2, that group in which a second injection is of value; Case 3, that group in which one injection is sufficient.

Furthermore, these three cases presented points which I considered valuable for another reason. Many authorities contend that the serum is of no value; that it is useless to administer it. It seems to me that a study of its effects on these three cases should modify such wholesale condemnation.

In the first place, it will be observed that each of these 3 cases was at a different stage of progress when the serum was administered. In Case 1 the patient had been ill 4 or 5 days; in Case 2, about 2 days, and in Case 3, about 36 hours. Yet in each case the temperature was markedly lower on the morning after administration—falling about 3 degrees; and as each case was in a different stage of progress, this fall of temperature could not have been a pseudocrisis of the disease. Surely no one can contend that the fall was not produced by the serum; and if we have a remedy producing such a beneficial effect, is it not worthy of a trial in all cases unless the patient is moribund?

I have observed this fall in temperature in all cases in which the serum treatment has been adopted, although it may sometimes be delayed for 36 hours, even on a first administration, as on the second in Case 2.

By referring to Chart 1 it will be noticed that in Case 1, while there is a reaction to the serum, the temperature falling almost 3 degrees the morning after administration, at 6 p. m., however, there is a rise to a temperature almost a degree higher than before the serum was given; and on the second morning after a rise to 105.4 F. The rise on the second morning, after administration, has always heralded a fatal issue; the patient has failed to respond, in these cases, to as great a dose as 100 c.c. But I have never observed this failure in bubonic cases as early in their course as Case 2, unless the lungs have been involved.

In Case 2 (Chart 2) it will be noticed that while there is a rise in the evening temperatures for 3 days after administration from the temperature of the preceding morning, there is on each occasion a corresponding fall in the respective morning temperatures, so that no evening temperature greatly exceeds that on administration. But at no time did the morning temperature fall below 100 F., and, although it fell to 99 F. on the day of the second injection, yet the patient's general condition was bad. In fact, so serious was his condition that I have not the least doubt he would have died had serum not been given a second time.

I desire to again call attention to the fact that, in my opinion, the serum should be given a second time when the temperature is above 100 F. for three evenings after the first dose.

The looked-for fall after the second dose in Case 2 did not take place till 36 hours after the injection. A delay for this length of time, however, need not cause doubt as to the reaction occurring. I have repeatedly seen this time required even after a first dose.

Case 3 is an illustration of that group of cases most favorable for treatment by serum. In fact, the serum has acted similarly in all cases of uncomplicated bubonic plague which have been treated within 48 hours of its inception.

Usually on the morning after administration, but it may be delayed till the second morning, as already alluded to, there is a fall in the temperature to almost normal, in the evening a rise to almost its former height (in this case to 102 F.), the next morning a fall to a temperature about midway between the highest and lowest temperatures of the day before, followed by a slight rise (here 0.4 of a degree) in the evening, the temperature reaching within half a degree of normal on the third morning after injection, and with variations of but half a degree thereafter.

The serum used in these cases was that known as "dry serum," and was made by the Pasteur Institute. I believe that this is far superior to the liquid serum, and it may be that the liquid serum is responsible for the poor results reported by some observers. The dry serum is difficult to dissolve if one is not familiar with it. The main point is to have a test-tube with just sufficient water to moisten its sides—no more. The dry serum is dropped from the glass capsule, in which it comes, so that the particles of the serum, which adhere readily, form a layer of only one particle in thickness on the sides of the tube. Then sufficient water is added to make the necessary 10 c.c. of serum. Heat should never be employed, but as much time taken to cause the particles to dissolve by gently shaking as is necessary. A stirring rod should not be used unless the tube is held over another vessel to catch the serum, and preparations are made to filter broken glass from the solution.

In conclusion I wish to say that I do not offer these cases as an attempt at a clinical description of plague, a disease as variable in its aspects as the fabled god Proteus. Nor do I wish to be interpreted as considering myself as entitled to acceptance as some authorities who have reported unfavorably on the use of antipest serum.

All I have aimed to do is to present the effects of the serum in these three cases, supplemented by what observations of its benefit I have made in a limited use of the remedy, in the hope that in the event of anyone being called on to treat a case of plague he will at least give it a trial—with this assurance: you can do no harm with it, and you may do incalculable good.

NOTES ON TRIFACIAL NEURALGIA TREATED BY DEEP INJECTIONS *

V. P. BLAIR, M.D.
ST. LOUIS

For the privilege of observing and treating these cases I am indebted to the courtesy of Drs. Baker, Behrens, Bliss, Boislinière, Butler, Falk, Fry, Graves, Hauck, Hoge, Kennerly, and Remme.

It is important that the surgeon who intends to treat this form of neuralgia be able to diagnose the condition when present and to differentiate it from other painful affections, which might more or less closely counterfeit the genuine tic douloureux; otherwise he will miss appropriate cases or will throw obloquy on a valuable procedure by using it under inappropriate circumstances.

A very slight acquaintance with the symptoms of the disease will exclude the possibility of not recognizing it when present. The recognition of its counterfeits is in most cases quite as simple, but may be so difficult as ultimately to baffle the most skilful and painstaking neurologists.

There were certain common features present in all of the true trifacial tics that have come under my observation. Within certain limits the clinical picture in the individual cases varied considerably, but by excluding from operation cases that varied beyond these limits, I was able to eliminate all except one, possibly two, out of a number of cases of other conditions which have been referred to me. These cases will be mentioned later. The clinical features common to all of the cases were:

1. The neuralgia was confined to the distribution of one or more branches of the fifth nerve on the affected side, but it is my belief that the exact limits of the area to which this nerve is distributed varies slightly in individuals. This belief is based on the observation of

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* Read before the St. Louis Medical Society, February, 1910.

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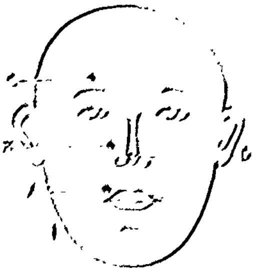
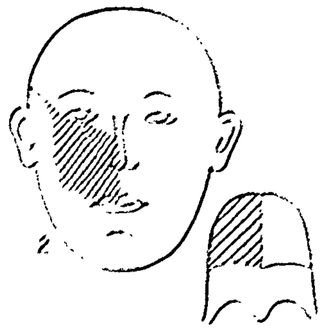
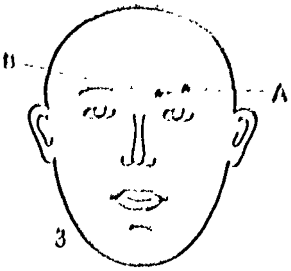






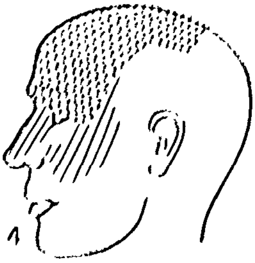


Fig. 1. *Case of woman aged 65. Pain came on at A in 1905 and at B some time in 1905 after the appearance of pain at A. Pain at A was relieved by an operation on the infra-orbital nerve in 1906. Pain came on at C in March, 1908. Touching the spot D will start pain in A and B.*

Fig. 2. *Diagram of the anesthesia that resulted in subject of Figure 1 from a deep injection of the second division of the fifth nerve on May 18, 1907. In the lower right-hand corner the right half of the palate is shown.* **All pain, including that at C, was** *relieved.*

Fig. 3. **Man, aged 58. Pain came on at A in 1884, and was somewhat relieved by cutting the supra-orbital nerve in May, 1908. Pain came on at B after the supra-orbital nerve was cut, in May, 1908. A painful spot appeared over the temporal branch of the orbital nerve.**

Fig. 4. **Diagram of the anesthesia that resulted in subject of Figure 3 from the injection of the first and second division of the left fifth on April 20, 1909. The chart was made on April 27, 1909. It will be seen that a much more complete anesthesia was obtained over the first than over the second division. Note that partial anesthesia extended into the area of the nasal branch of the first division. There was some diplopia and dimness of vision after the operation, but it cleared up in a week.**

shortened and the length and intensity of each twinge usually increased as time went on. In [illegible] exceptional case referred to the first paroxysm laste[illegible]

To the paroxysmal character was later a[illegible]
ular periodicity, which might be eviden[illegible]
twinges being present or more frequent on alt[illegible]
or during indefinite stretches of time that [illegible]

[illegible] periods of comparative freedom.

4. When the pain [illegible] in exactly the same [illegible] the pain was always [illegible] that could often be [illegible]. Later other such painful areas might [illegible] they were in turn [illegible]. The pain might come in the several spots [illegible] the other by turns, or [illegible]. The pain might remain confined to the [illegible] over which it first appeared [illegible] branches or divisions successively.

5. The [illegible] one side, but in two of the cases the pain [illegible] both fifth nerves, and in a third, [illegible] in the first division of the left fifth nerve after the Gasserian ganglion had been removed on the right side.

6. For the greater part the trunks and branches of the affected nerves were not tender, but in almost all cases there were spots over the distribution of the nerve, stimulation of which caused a twinge in the pain spots. The touch of a finger, a breath of cold air, the taking of food or liquids in the mouth, swallowing, or a sudden movement, any or all of these might bring on the pain. One old lady could not let a bright light fall on the eye on the affected side without a sharp pain in a spot to the outer side of the ala of the nose. Another could not take sweet or sour things and a third suffered a supra-orbital pain whenever food touched the palate. It was pitiful to observe the extremes to which these patients would resort to avoid the stimuli that they knew would produce pain. Some of them would [illegible] or take food or drink in only one side of the mouth. One patient would go for days without swallowing even water, and others would not enter a room until sure all windows were closed. Some for months at a time would not wash one side of the face or brush the teeth.

7. In the older cases, though there was evidence of
extreme pain during the attack, the patient see[illegible]
have become used to it and seldom made o[illegible]
demonstrative complaint.

8. Contrary to my previous idea that trifa[illegible]
gia was essentially a disea[illegible] middle or [illegible]
appeared in all decades fr[illegible] second on.
of the twenty cases here [illegible] it ca[illegible]
in one at 29, and one at [illegible] in [illegible]
it appeared between the [illegible] 1 60

9. All previous form[illegible]
of removal of that pa[illegible] i[illegible]
which the affected br[illegible]
porarily effectual.

In some cases, va[illegible]
had for a while cont[illegible]
these quinin was [illegible]
continued use of [illegible]
sedatives were help[illegible]

In a large numb[illegible]
had been extracted
cases, with none.
the affected nerve
lasting from two
pain returned wi[illegible]
four cases,
d[illegible]
of

In sixteen cases a record was made of the time which had elapsed since the pain first came. In one it was two months, in one six months, in two it was two years, in one two and a half years, in one three years, in one four years, in one nine years, in one twelve years, in one fourteen years, in one fifteen years, in one seventeen years, in one twenty-five years. In one patient it had started twelve years previously on one side, and he had had it for one year on the other, while another had had it for fifteen years on one side and thirty on the other.

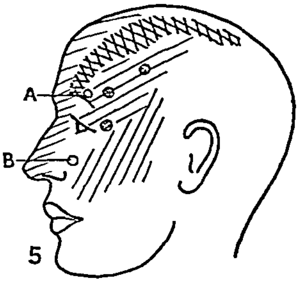
10. The pain might have come on, in the first place, with or without apparent cause, but removal of the apparent cause but temporarily controlled the pain. In one case it was associated with a necrosis of the mandible; in two, with pulp-stones, and in three cases with a dental caries. One patient gave a history of a doubtful local cause in a severe blow on the nose received three years previously. Some of the cases seemed to be associated with some more general disturbance. In one there was a marked auto-intoxication, in one malaria may have been the cause, and a third was in a rheumatic individual. Two of the cases were associated with a high blood-pressure. In the others no assignable cause could be found.

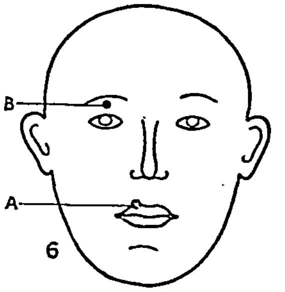
From the local findings and the clinical histories of these cases, the following conclusions would seem tenable in regard to the diagnosis:

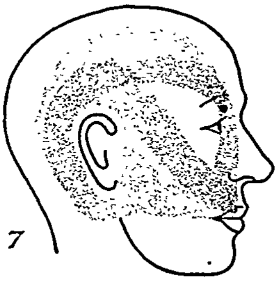
If pain comes on suddenly in one spot on one branch of the fifth nerve; if it is paroxysmal and returns always in that spot, whether or not other spots on the same or other branches of the nerve are later involved; if subsequently it not only comes on spontaneously, but can be elicited by certain definite stimuli peculiar to the individual case; and if with the pain there are no primary anesthesias over the involved nerve area and no general tenderness of the trunks of the involved nerve, it is a genuine major trifacial neuralgia. This does not necessarily exclude all cases that do not present this exact picture.

In fifteen of the twenty cases of true tic on which this review is based, the patients were subjected to deep injections, the object being to reach one or more of the divisions of the fifth nerve just at the point where it emerged from the cranial cavity. The other five were not subjected to injection, partly for the reason that when I first took up this study I was rather timid about putting this procedure into operation and did so only when urged by the patient and the physician; and later, even since becoming convinced of the efficacy and comparative safety of the operation, I have encountered one case that was so mild that I did not encourage the patient to have the injection made, and in two cases that were rather recent, I suggested further trial of other measures. In six out of the fifteen that were subjected to injection, only the third division of one fifth nerve was injected. The second and third nerves were injected in three patients; the first and second were injected in four patients; the first alone was injected in one patient, and in one patient the second and third division on one side and the second on the other side were injected. The fluids injected varied, but in all alcohol was the basis. At first I used 70 per cent. alcohol, later 70 per cent. alcohol with cocain. Then I used the formula recommended by Dr. Patrick, of Chicago, but in the later cases I have used for the second and third division a mixture of 2 per cent. novocain, 6 per cent. chloroform, 22 per cent. water, 70 per cent. alcohol, and for the first division the same formula with but 2 per cent. chloroform. This reduction of chloroform is in deference to the optic nerve. The quantity of the fluid injected was about 2 c.c. for each nerve; in some cases a less amount sufficed. The locating of the nerve trunks depends on the ability to recognize with the point of the needle certain bony points on the base of the skull and the information furnished by the patient that the nerve is reached. To do this, I use a needle that is straight, strong and inflexible, and graduated in centimeters.

Before undertaking to perform the operation upon the patient, I made use of the opportunity I had of making experiments on the cadaver when working in the anatomic laboratories at the Washington University. These experiments consisted in seeking the nerve trunks by various routes before the students dissected the head, and injecting a little blue gelatin at the supposed site of the nerve and then in observing the accuracy of the injection later when the heads were dissected. These experiments were carried on for three dissecting terms. In the first two patients on whom I operated, in deference to precedent, I attempted to follow the French method of injecting from within the mouth. In this procedure the needle enters to the outer side of the last molar, the external plate of the pterygoid process is followed until its junction with the under surface of the great wing of the sphenoid is encountered. By working the point of the needle backward, the foramen ovale, which gives exit to the third divisio[illegible]eached. By







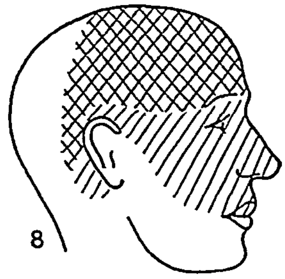


Fig. 5.—Diagram of the anesthesia in subject of Figures 3 and 4 on May 1, 1909, four days after the injection. In October, 1908, the whole of the frontal nerve had been removed back to the sphenoidal fissure, which probably accounts for the streak of absolute anesthesia that has persisted. The other anesthetic spots are probably due to some damage to the nerve fibers during injection. Spots A and B were tender, owing probably to the beginning of the return of protopathic sensibility. The pain in this case returned in one month, but not as severely as before operation. The anesthesia had not entirely disappeared six months after the injection.

Fig. 6.—Man, aged 68. Pain came on at A December, 1906. Since May, 1909, touching B causes exquisite pain.

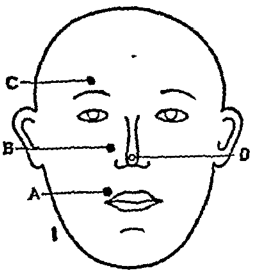
Fig. 7.—Diagram of the direction and distance that the pain radiated from the pain spots in subject of Figure 6. The fact that the pain radiated behind the ear tended to cast some doubt on the diagnosis before the injection was made.

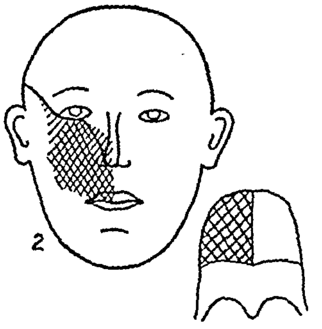
Fig. 8.—Diagram of the anesthesia in subject of Figures 6 and 7 resulting from a deep injection into the first and second division of the fifth nerve on July 2, 1909. From the anesthesia it will be seen that the area behind the ear is supplied in this case by the first division of the fifth nerve, which accounts for the fact that the pain radiated behind the ear in this case. This is not the average distribution.

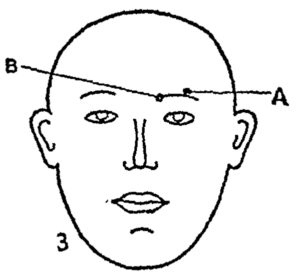
the anesthesias that have resulted from the injections. In one case the pain crossed the bridge of the nose and in two cases it extended behind the ear, but in no case did the pain extend into areas unmistakably known to be entirely innervated from other sources.

2. The pain in all cases came on in a definite spot, from which it radiated in various directions over the area belonging to the fifth nerve.

3. Whether its first intimation was a severe pain or a paresthesia so slight as to be compared to the touch of a feather, and whether in the later stages the patients had but occasional twinges, or the pains followed each other so closely as to destroy all rest and drive the sufferer almost to desperation, the pain was always, in all stages of the disease, paroxysmal. If the first twinge was severe, the patient might have thought that he had been struck or stung, but, whether severe or almost imperceptible, in all but one case it lasted but a second or a few minutes and returned—that day or the next, or in a week, a month or a year—but it returned; and the subsequent history was that the intervals between pains shortened and the length and intensity of each twinge usually increased as time went on. In the exceptional case referred to the first paroxysm lasted four hours.







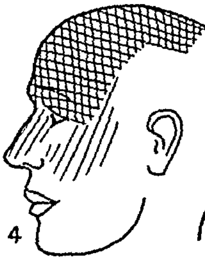


Fig. 1.—Case of woman aged 65. Pain came on at A in 1905 and at B some time in 1905 after the appearance of pain at A. Pain at A was relieved by an operation on the infra-orbital nerve in 1908. Pain came on at C in March, 1908. Touching the spot D will start pain in A and B

Fig. 2.—Diagram of the anesthesia that resulted in subject of Figure 1 from a deep injection of the second division of the fifth nerve on May 13, 1907. In the lower right-hand corner the right half of the palate is shown. All pain, including that at C, was relieved.

Fig. 3.—Man, aged 53. Pain came on at A in 1884, and was somewhat relieved by cutting the supra-orbital nerve in May, 1908. Pain came on at B after the supra-orbital nerve was cut, in May, 1908. A painful spot appeared over the temporal branch of the orbital nerve.

Fig. 4.—Diagram of the anesthesia that resulted in subject of Figure 3 from the injection of the first and second division of the left fifth on April 26, 1909. The chart was made on April 27, 1909. It will be seen that a much more complete anesthesia was obtained over the first than over the second division. Note that partial anesthesia extended into the area of the nasal branch of the first division. There was some diplopia and dimness of vision after the operation, but it cleared up in a week.

To the paroxysmal character was later added an irregular periodicity, which might be evidenced by the twinges being present or more frequent on alternate days or during indefinite stretches of time that might last for weeks or months, alternating with periods of comparative freedom.

4. When the pain returned it was in exactly the same spot, and, though it might radiate, the pain was always most sharp in the one certain place that could often be covered by the end of a lead-pencil. Later other such painful areas might develop, but they were in turn usually equally definite. The pain might come in the several spots at once, or in one or the other by turns, or play from one to the other. The pain might remain confined to the distribution of the branch over which it first appeared, or it might involve other branches or divisions successively.

5. The neuralgia was usually confined to one side, but in two of the cases the pain involved both fifth nerves, and in a third, there was a typical tic in the first division of the left fifth years after the Gasserian ganglion had been removed on the right side.

6. For the greater part the trunks and branches of the affected nerves were not tender, but in almost all cases there were spots over the distribution of the nerve, stimulation of which caused a twinge in the pain spots. The touch of a finger, a breath of cold air, the taking of food or liquids, in the mouth or swallowing, or a sudden movement, any or all of these might bring on the pain. One old lady could not let a bright light fall on the eye on the affected side without a sharp pain in a spot to the outer side of the ala of the nose. Another could not take sweet or sour things and a third suffered a supra-orbital pain whenever food touched the velum. It was pitiful to observe the extremes to which these patients would resort to avoid the stimuli that they knew would produce pain. Some of them would talk from or take food or drink in only one side of the mouth. One patient would go for days without swallowing even water, and others would not enter a room until sure all windows were closed. Some for months at a time would not wash one side of the face or brush the teeth.

7. In the older cases, though there was evidence of extreme pain during the attack, the patient seemed to have become used to it and seldom made outcry or demonstrative complaint.

8. Contrary to my previous idea that trifacial neuralgia was essentially a disease of middle or later life, it appeared in all decades from the second on. In one out of the twenty cases here considered it came on at 19, in one at 29, and one at 35 years, but in most instances it appeared between the ages of 45 and 60 years.

9. All previous forms of treatment with the exception of removal of that part of the Gasserian ganglion from which the affected branches sprung, had been but temporarily effectual.

In some cases, various forms of medicinal treatment had for a while controlled or modified the pain. Among these quinin was prominent in one case; in another, the continued use of castor oil, while in others the coal-tar sedatives were helpful.

In a large number of cases, one or a number of teeth had been extracted with but little benefit, and in most cases, with none. In five cases, excision of a portion of the affected nerve trunk had been resorted to with relief lasting from two weeks to eight months, but in all these pain returned with equal, or increase of, severity.

In four cases, injection of alcohol into the peripheral distribution of the nerves or at their superficial foramina of exit had given relief varying from a few weeks to nearly a year, and in one the removal of a piece of dead bone from the jaw had given relief for six months; but in all the pain eventually returned.

In sixteen cases a record was made of the time which had elapsed since the pain first came. In one it was two months, in one six months, in two it was two years, in one two and a half years, in one three years, in one four years, in one nine years, in one twelve years, in one fourteen years, in one fifteen years, in one seventeen years, in one twenty-five years. In one patient it had started twelve years previously on one side, and he had had it for one year on the other, while another had had it for fifteen years on one side and thirty on the other.

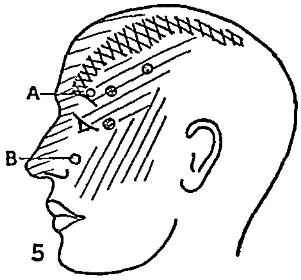
10. The pain might have come on, in the first place, with or without apparent cause, but removal of the apparent cause but temporarily controlled the pain. In one case it was associated with a necrosis of the mandible; in two, with pulp-stones, and in three cases with a dental caries. One patient gave a history of a doubtful local cause in a severe blow on the nose received three years previously. Some of the cases seemed to be associated with some more general disturbance. In one there was a marked auto-intoxication, in one malaria may have been the cause, and a third was in a rheumatic individual. Two of the cases were associated with a high blood-pressure. In the others no assignable cause could be found.

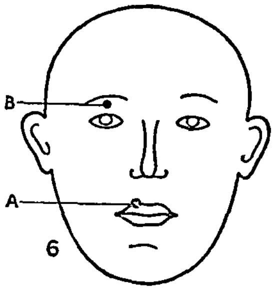
From the local findings and the clinical histories of these cases, the following conclusions would seem tenable in regard to the diagnosis:

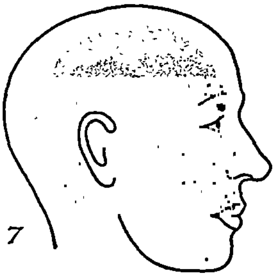
If pain comes on suddenly in one spot on one branch of the fifth nerve; if it is paroxysmal and returns always in that spot, whether or not other spots on the same or other branches of the nerve are later involved; if subsequently it not only comes on spontaneously, but can be elicited by certain definite stimuli peculiar to the individual case; and if with the pain there are no primary anesthesias over the involved nerve area and no general tenderness of the trunks of the involved nerve, it is a genuine major trifacial neuralgia. This does not necessarily exclude all cases that do not present this exact picture.

In fifteen of the twenty cases of true tic on which this review is based, the patients were subjected to deep injections, the object being to reach one or more of the divisions of the fifth nerve just at the point where it emerged from the cranial cavity. The other five were not subjected to injection, partly for the reason that when I first took up this study I was rather timid about putting this procedure into operation and did so only when urged by the patient and the physician; and later, even since becoming convinced of the efficacy and comparative safety of the operation, I have encountered one case that was so mild that I did not encourage the patient to have the injection made, and in two cases that were rather recent, I suggested further trial of other measures. In six out of the fifteen that were subjected to injection, only the third division of one fifth nerve was injected. The second and third nerves were injected in three patients; the first and second were injected in four patients; the first alone was injected in one patient, and in one patient the second and third division on one side and the second on the other side were injected. The fluids injected varied, but in all alcohol was the basis. At first I used 70 per cent. alcohol, later 70 per cent. alcohol with cocain. Then I used the formula recommended by Dr. Patrick, of Chicago, but in the later cases I have used for the second and third division a mixture of 2 per cent. novocain, 6 per cent. chloroform, 22 per cent. water, 70 per cent. alcohol, and for the first division the same formula with but 2 per cent. chloroform. This reduction of chloroform is in deference to the optic nerve. The quantity of the fluid injected was about 2 c.c. for each nerve; in some cases a less amount sufficed. The locating of the nerve trunks depends on the ability to recognize with the point of the needle certain bony points on the base of the skull and the information furnished by the patient that the nerve is reached. To do this, I use a needle that is straight, strong and inflexible, and graduated in centimeters.

Before undertaking to perform the operation upon the patient, I made use of the opportunity I had of making experiments on the cadaver when working in the anatomic laboratories at the Washington University. These experiments consisted in seeking the nerve trunks by various routes before the students dissected the head, and injecting a little blue gelatin at the supposed site of the nerve and then in observing the accuracy of the injection later when the heads were dissected. These experiments were carried on for three dissecting terms. In the first two patients on whom I operated, in deference to precedent, I attempted to follow the French method of injecting from within the mouth. In this procedure the nee [illegible] last molar, the e [illegible] followed until its [illegible] great wing of t [illegible] the point of [illegible] which gives [illegible] o the outer side of the the pterygoid process is the under surface of the countered. By working rd. the foramen ovale, ivision, is reached. By







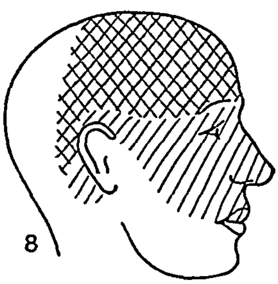


Fig. 5.—Diagram of the anesthesia in subject of Figures 3 and 4 on May 1, 1909, four days after the injection. In October, 1908, the whole of the frontal nerve had been removed back to the sphenoidal fissure, which probably accounts for the streak of absolute anesthesia that has persisted. The other anesthetic spots are probably due to some damage to the nerve fibers during injection. Spots A and B were tender, owing probably to the beginning of the return of protopathic sensibility. The pain in this case returned in one month, but not as severely as before operation. The anesthesia had not entirely disappeared six months after the injection.

Fig. 6.—Man, aged 68. Pain came on at A December, 1906. Since May, 1909, touching B causes exquisite pain.

Fig. 7.—Diagram of the direction and distance that the pain radiated from the pain spots in subject of Figure 6. The fact that the pain radiated behind the ear tended to cast some doubt on the diagnosis before the injection was made.

Fig. 8.—Diagram of the anesthesia in subject of Figures 6 and 7 resulting from a deep injection into the first and second division of the fifth nerve on July 2, 1909. From the anesthesia it will be seen that the area behind the ear is supplied in this case by the first division of the fifth nerve, which accounts for the fact that the pain radiated behind the ear [illegible] ase. This is not the average distribution.

working forward, the sphenomaxillary fossa, the foramen rotunda and the sphenoidal fissure, which give exit to the second and first division, are found. On the first patient, who had an involvement of the third division, I succeeded, after three attempts made at intervals of a week, in getting a complete anesthesia over the distribution of the nerve and of giving complete relief from the pain. It is possible that in this case I reached the Gasserian ganglion.

In the second patient, who had an involvement of the second and third division, I succeeded in reaching the third division, but after two unsuccessful attempts at reaching the second, the patient left me in disgust and I then abandoned the intra-oral route for the much easier external route, which has the further advantage that the asepsis is surer.

In the external route the needle enters the cheek a little below the zygoma, and passing through the sigmoid notch of the mandible, the pterygoid process is encountered and its junction with the great wing of the sphenoid recognized. By working backward the third division is reached, and by working forward the second is found either in the sphenomaxillary fossa or as it courses around the back part of the maxilla.

The first division is injected by making the needle enter just below the external angular process of the frontal bone and by following along the malar maxillary frontal suture for a distance of 3 or 3.5 cm., where the outer end of the sphenoid fissure is reached. It will be remembered that the optic foramen is above the inner end of this fissure. When the nerve is first touched by the needle, and when the first few drops of the fluid is injected, the pain is great, but no worse than an ordinary twinge of a severe neuralgia. When novocain is used in the injection fluid, severe pain usually very quickly ceases and the rest of the injection is very much less painful.

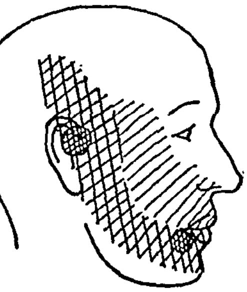


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Fig. 9.—Diagram of anesthesia after injection in another case of many years' duration. The second division was injected on March 2, 1909, with almost total anesthesia resulting. The third division was injected March 24, 1909. It was charted on March 25, 1909. It will be seen that the anesthesia to pain and touch over the second division has considerably lessened between the time of injection and the time of charting. At the time of charting it was found that on the right side, the lingual and labial surfaces of the lower gum, the superior, inferior and lateral surfaces of the anterior two-thirds of the tongue, and the inner surface of the cheek below the occlusial line, were completely anesthetic to touch, pain and temperature, and sense of taste was lost in the anterior two-thirds of the right half of the tongue. The whole of this area was completely anesthetic to heat and cold. This anesthesia persists longer than does the anesthesia to touch and pain. The anesthesia had not entirely disappeared nine months after the injection. Pain had persisted for fifteen years before injection and had not returned two years after injection.

The effect of the successful injection was in all cases an immediate complete cessation of the pain, with or without a more or less complete anesthesia over the area of distribution of the nerve, and in most cases more or less paresthesia in the form of jerking or crawling sensation in the skin or mucous membrane. This paresthesia is rather persistent, wearing off in from six to nine months in most cases. It is not objected to at all by normal individuals, but I could well imagine that a neurotic person might magnify it into as great an evil as the original pain. This is one reason why I dislike to give injections in mild cases.

In summing up the late results, I shall divide the cases into two classes: First, those in which the injection was followed by a demonstrable anesthesia, and second, those in which it was followed only by a subjective feeling of numbness. There were twelve of the former and in eight of these the patients had no return of the pain whatsoever, when last heard from at periods of three weeks, three months, six months, seven months, eight months, ten months and three years. The latter patient, whom I know to have gone three years, had suffered intensely for nine years and had become a wanderer but has since settled down comfortably.

Of the four patients who had an anesthesia following the injection, but in whom the pain afterward returned, one had complete relief for a month when the pain returned with full intensity, but the paroxysms have not been nearly so frequent.

In one the pain returned in three weeks but, to quote the patient's own words, "it is not half so severe as it was" and not nearly so frequent. One has had very slight occasional returns, and the fourth, in whom I was permitted to inject only one of two painful trunks, had already learned the use of morphin; she has been injected by another surgeon, and now has a syringe of her own, but not for alcohol.

The anesthesias and the paresthesias gradually disappeared. There were three patients in whom a subjective numbness, but no demonstrable anesthesia, followed the injection. From two of these I have not received reports, but one of them, at least, I am sure would have returned for further treatment had she again suffered. The third patient reported to me ten months afterward with very slight occasional twinges, which caused her little inconvenience.

Of course this procedure cannot be absolutely free from danger, but it is probably less dangerous than a Gasserian ganglion operation, and, from some cases that have come to my notice, quite as successful as some of the latter operations have been.

The injection causes a real sufferer little extra pain or inconvenience and many will submit to it who have refused the Gasserian ganglion operation. At least it seems worthy of a trial before resorting to the latter. The only ill effects I have observed are the paresthesias and a soreness lasting for several days. In two cases there was diplopia and dimness of vision, lasting less than a week, and in one case there was an orbital hemorrhage, which had been diffused by the next day and never gave any subjective symptoms.

A study of the histories of these cases and of the results of the injections seems to warrant the conclusion that the more definitely a paroxysmal pain has been confined to certain spots, especially on the second and third divisions, the greater is the promise of relief from deep injections.

Before closing, I wish to cite two cases which are not included in the above series, but which give point to some of the conclusions:

Case 1.—A man over 60 years of age suffered intensely with a pain in one spot on the tragus of the ear for four months. Since the pain came on it had been a steady ache with no paroxysms. The latter feature gave rise to doubt whether or not it was a true tic, but I injected the third division in hopes of giving the patient relief and obtained a definite anesthesia, including the pain area, without giving any relief. The mouth was examined at this time, but no local cause for the pain was found. Six months later the patient returned with pain in the same spot, radiating to the top of the head. Examination of the mouth revealed an almost hidden ulcerating carcinoma, under the side of the tongue over the lingual nerve. Evidently the injection had not reached the part of the trunk from which the lingual springs.

CASE 2.—This patient was seen with Dr. Fry since these notes were written. A woman of 50 years had a paroxysmal neuralgia of six months' duration, which came on in the second division, but which very soon involved the first and third divisions very generally. There was subjective numbness, disturbances of taste, odd paresthesias, an inability to locate exactly the pain and tenderness over the nerve trunks. On account of the general distribution of the pain, the usual sensory disturbances and the inability of the patient to locate the pain definitely, a very guarded prognosis was given before an injection was made into the second and third divisions of the nerve. This injection was made eight days ago, and, in spite of a very definite anesthesia in the second division, the pain continues in the anesthetic area. Since then the paroxysms in the second and third divisions have been less severe, but now the patient is complaining of the paresthesias as much as she did of the original pains, and has some general pains in the abdomen.

The cases in this series were selected because of the opportunity there had been of studying each. Some of them were selected for study because of the very accurate and complete notes that were made on them before and after injection, and others because they illustrate special points. In the larger series that goes to make up my experience in this line nothing was observed that is at absolute variance with the observations or conclusions here set forth.

Metropolitan Building.

A REPORT OF THE TUBERCULOSIS SITUATION IN PENNSYLVANIA IN 1909

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INTRODUCTION

The subject of this paper is discussed under two heads: first, the extent of tuberculosis in Pennsylvania in 1909, and second, the measures in operation in our state last year to control the disease. In reviewing the control measures in force in Pennsylvania last year, it should be borne in mind that the antituberculosis movement in general has been wholly experimental in nature. It has not proceeded from well-determined principles which have been applied from the first to the guidance of effort, but rather it has had historical development. It is impossible to make any categorical statement as to the relative value of preventive measures; the body of experience is not yet sufficiently large to warrant that. We have, however, as the result of ceaseless and varied experimentation, the knowledge of what has practically worked for the prophylaxis and cure of tuberculosis, and the general tendency of the movement is the only standard that can be applied to the measurement of local effort.

I. THE EXTENT OF TUBERCULOSIS IN PENNSYLVANIA IN 1909

There were 111,062 deaths from all causes in Pennsylvania last year. Of this number, 10,122, or 9 per cent., were from tuberculosis.

1. *Where the 1909 Deaths from Tuberculosis Occurred.*—A study of the tuberculosis death-rate in the various counties of our state in relation to the proportion of the inhabitants of each county living in cities of 8,000 or over, discovers the fact that those counties having the greatest proportion of urban population have the highest mortality from tuberculosis; while conversely, the rural counties as a rule have a much lower death-rate.

Potter, for example, is a sparsely settled, rural county. The death-rate from tuberculosis was less than 6 in 10,000. Westmoreland is another entirely rural county, but more thickly settled than Potter. The death-rate in Westmoreland was 9.5. In Berks and Erie counties, about evenly divided in character between urban and rural, the tuberculosis death-rates were respectively, 10.8 and 9.9. In all of these counties the rate is below the rate for the state; while Allegheny and Philadelphia counties with population, in the one case 70 per cent. and in the other all urban, sustained a mortality from tuberculosis of 14.8 and 22.1, both of which are above the state average.

TABLE 1.—TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

	Population	—All deaths— No.	%	T. B. deaths No.	%	T. B. deaths per 10,000
Total	7,137,315	111,062	100	10,122	100	14.1
Urban	3,387,401	54,265	47.6	5,676	56	16.6
Rural	3,749,914	56,797	52.4	4,446	44	11.6

TABLE 2.—DECLINE OF TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

Death-rate	Pennsylvania		New York		Massachusetts		Maryland	
per 10,000	All	T.B.	All	T.B.	All	T.B.	All	T.B.
1906	165	15.5	170	20.0	165	18.3	157	20.4
1907	164	15.3	175	19.7	174	18.3	161	20.0
1908	157	14.3	162	19.4	165	17.2	154	19.7
1909	157	14.1	160	18.6	161	16.8	151	19.8
Rate of decline	8	1.4	10	1.4	4	1.5	6	.6

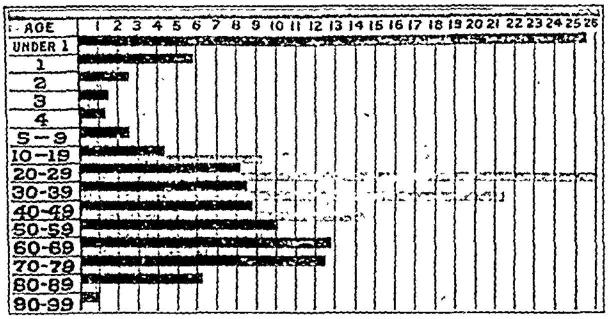
From the first table it will be seen that the state death-rate from tuberculosis in 1909 was 14.1; the urban 16.6 and the rural rate 11.6. Rural districts with over 52 per cent. of Pennsylvania's population had but 44 per cent. of the deaths from tuberculosis; and 56 per cent. of the deaths occurred in cities representing less than 48 per cent. of the state's population. The preponderance of deaths from tuberculosis in the urban parts of Pennsylvania is further emphasized by the state's two largest cities. Philadelphia and Pittsburg with 29 per cent. of the population show 40 per cent. of all tuberculosis deaths in 1909.

What we have found with respect to the greater death-rate from tuberculosis in Pennsylvania cities than in the rural districts is true of the United States generally and also of England, Scotland and other countries.

2. *At What Age Tuberculosis Killed.*—The diagram exhibits by age periods the number of deaths from tuberculosis in Pennsylvania in comparison with the number of deaths from all causes. The numerals at the top of the chart represent thousands in the case of total deaths, and hundreds for tuberculosis. Thus there were over 25,000 deaths from all causes under one year of age, and over 2,500 deaths from tuberculosis between the ages of 20 and 29. By far the greatest single period of general mortality was under one year of age;

from tuberculosis it was between the ages of 20 and 29; 64 per cent. of the deaths from tuberculosis took place between the ages of 20 and 50, while but 22 per cent. of the general mortality for the year occurred between these ages. Therefore, since tuberculosis in practically seven cases out of ten took human life at precisely that period when it represents economic surplus, it must be regarded as of all preventable diseases the one which entailed most serious economic waste. Applying Prof. Irving Fisher's estimate of $1,700 as the average value of the lives sacrificed by preventable diseases to the number of tuberculosis deaths in Pennsylvania last year, we find that our loss in potential earnings was $17,207,400.

3. *Is the Tuberculosis Death-Rate Declining in Pennsylvania?*—Unfortunately, statistics for our state are not available further back than 1906, but let us see what took place during the four years for which we have the necessary data. From Table 2 it will be seen that the general death-rate for Pennsylvania declined between 1906 and 1909 from 16.5 to 15.7. In other words, eight less persons per 10,000 died at the end than at the beginning of the four-year period. The decline from tuberculosis has been proportionately greater—as fourteen is to eight. But, it appears that substantially the same thing happened in New York, Massachusetts and Maryland, in all of which states the general death-rate declined, while the decline from tuberculosis was somewhat greater, save in the case of Maryland, where the decrease from tuberculosis did not exceed the general decrease. Therefore, it would seem that whatever causes operated to produce the decline in Pennsylvania were also operative in the other states mentioned.



Number of deaths from tuberculosis in comparison with number of deaths from all causes, at various ages. The solid black horizontal bars indicate deaths from all causes; the gray bars, deaths from tuberculosis. The numerals at the top represent thousands in the case of total deaths, and hundreds for tuberculosis.

4. *Is It to be Supposed that the Decline in the Tuberculosis Death-Rate Has Been Caused by Human Effort, Directed Specifically Against the Disease?*—It would be rather absurd to attempt to draw conclusions from a study covering so brief a period as four years; but for the United States for a twenty-seven-year period, (1880–1907) the rate declined from 326.2 to 183.6 per 100,000 living, and for Massachusetts during a term of thirty-five years (prior to 1905) the decline was from 347 to 156; while for England and Wales the rate dropped in forty-six years from 348.7 to 172.2. Dr. Arthur Newsholme associates the declining death-rate from tuberculosis in England and also in Germany exclusively with the increase in facilities for segregating advanced cases. Dr. Robert Koch, too, held this view. In our country, however, provision for segregating the advanced cases, has been, until recently, so meager as to be almost *nil*. The declining death-rate from tuberculosis antedates by many years the spread of agencies for segregation; and since the establishment of such agencies the decline can not be said to have been greatly accelerated. It is therefore probably fair to conclude that only to a very limited extent has human effort to control tuberculosis actually operated to reduce the death-rate. This should be qualified, however, by the statement that the very marked reduction in the death-rate from tuberculosis in certain cities in the United States—notably in New York city—is probably due in no small degree to the facilities for segregating intensely infectious cases. In Philadelphia last year, 1,074 deaths—nearly one-third of all deaths from tuberculosis—occurred in institutions, and it is natural to suppose that the segregation, even though brief, had an important effect in eliminating infection.

5. *Morbidity from Tuberculosis.*—The amount of sickness as well as the number of deaths is an index to the extent of disease. What, then, was the morbidity from tuberculosis in Pennsylvania last year? Since tuberculous disease is one of which notification of the public health officials is required, it might be supposed that to learn the number of persons so afflicted, one had but to consult state or local morbidity statistics. Actually, however, this will not yield the desired information. It may be said at once that no report on morbidity statistics for Pennsylvania later than 1907 has as yet been issued. In 1906, however, 5,234 cases of tuberculous sickness were reported, and in 1907 6,109 cases, or an increase of 16 per cent. were reported; and yet in 1907 there were over 4,700 less cases reported than there were deaths from the disease. For that year, tuberculosis was the only communicable disease of which the cases reported numbered less than the deaths. The reasons advanced by the state registrar for this lamentable discrepancy, are: the protracted character of the disease, the tendency of the afflicted to dispense with medical service, the frequent shifting of habitation, the fear of restriction as regards habits and employment, and the failure of a large part of the medical profession to grasp the vital importance of registration. It needs but the simple statement—not proof—that without adequate registration all efforts to control tuberculosis are seriously lamed. In Philadelphia last year 5,288 cases of tuberculosis were reported. In Pittsburg the house-to-house canvass by the tuberculosis commission of about two-thirds of the city spotted nearly twice as many cases as were reported to the health authorities during the year. Williamsport had no registration earlier than 1908. Since then only 83 cases have been reported; but there were, a few months ago, 221 cases under treatment at State Dispensary, 33 in that city, and the health officer estimates that there are 500 living cases in the city.

On the commonly accepted supposition that for each death from tuberculosis there are at least three other persons sick from the disease, there were probably no less than 40,000 cases in Pennsylvania last year.

II. PENNSYLVANIA'S EQUIPMENT AGAINST TUBERCULOSIS

6. *Number of Beds in Pennsylvania in 1909 for the Treatment of Tuberculosis.*—Turning now to a review of the state's equipment against tuberculosis, it will be seen from Table 3, representing Pennsylvania tuberculosis hospitals and sanatoriums, that there were in 1909, nineteen such institutions, with a total bed capacity at

the beginning of the year of 1,736, which was increased by 258 beds before the year's close. Of the 1,994 beds, 756 were provided by the state at Mont Alto, and 490 by the cities of Philadelphia and Pittsburg. In ten philanthropic sanatoriums (by which is meant institutions either partially or wholly charitable in foundation, although patients may be pay or free) there were 592 beds. Five of these agencies are in or near Philadelphia, and one each in Pittsburg, Scranton, Oil City, Bradford and White Haven. Six sanatoriums conducted for profit had 156 beds. The number of patients treated by each class of institution and the average length of patients' stay is also shown. Three state hospitals for the insane provided an additional 131 beds.

The 100 increase in municipal beds was in Philadelphia, while the largest increase for the year was in the number of state beds, due to the expansion of the South Mountain Sanatorium at Mont Alto. The present size of Mont Alto, 756 beds, makes it the largest state tuberculosis sanatorium in the country. Massachusetts has 1,100 state beds but they are divided among five institutions, the largest of which has not more than 350 beds. In Connecticut the tuberculosis commission pointed out the inadvisability of establishing institutions of more than 150 beds each; and Prof. Karl Petren of Sweden regards a sanatorium of 100 beds as a large institution.

TABLE 3.—PENNSYLVANIA TUBERCULOSIS HOSPITALS AND SANATORIUMS IN 1909

	No.	Capacity	Increase	Treated	Average stay (mos.)	%
State	1	598	158	1,089	4 1/2	38
Municipal	2	390	100	2,286	1 1/2	25
Philanthropic	10	592	...	1,725	4 1/4	29
Private	6	156	...	507	3 1/3	8
Total	19	1,736	258	5,607	3 2/5	100

TABLE 4.—BEDS FOR TUBERCULOSIS IN PENNSYLVANIA, NEW YORK, MASSACHUSETTS, OHIO AND INDIANA

	State		County		Municipal		Philanthropic and private		
	No.	%	No.	%	No.	%	No.	%	Total
Pennsylvania	756	38	.....	..	490	25	748	37	1,994
New York	350	5	1,016	15	2,781	40	2,776	40	6,923
Massachusetts	1,100	44	.....	..	587	23	778	33	2,465
Ohio	220	17	276	22	583	47	173	14	1,252
Indiana	100	32	40	13	52	16	120	39	312

TABLE 5.—ESTIMATED COST OF BUILDING AND MAINTAINING COUNTY HOSPITALS IN CERTAIN COUNTIES IN PENNSYLVANIA

County	Population	T. B. deaths	Beds needed	Estimated cost	Maintenance
Adams	35,305	47	25	$12,500	$11,406.25
Bucks	71,650	111	60	30,000	27,375.00
Cambria	135,606	157	80	40,000	36,500.00
Cameron, Elk and Potter	85,225	50	25	12,500	11,406.25
Delaware	110,826	195	100	50,000	45,650.00
Lackawanna *	111,265	104*	55	27,500	25,093.75
Westmoreland	198,059	190	100	50,000	45,650.00

* Exclusive of Scranton.

There were but 778 free beds for advanced cases in the state last year. Pennsylvania's total equipment in hospital and sanatorium beds for the tuberculous, represents a provision for institutional treatment of less than 20 per cent. of the number that died of the disease in 1909. New York had bed provision for over 42 per cent. of all 1909 deaths.

7. *Pennsylvania in Comparison with Other States in the Number of Beds for Tuberculous Patients.*—Table 4 is a comparison of the number of beds for tuberculosis in Pennsylvania with the number in New York, Massachusetts, Ohio and Indiana, together with a classification on a percentage basis of the proportion of the beds in each state, under state, county, municipal or philanthropic control. As has already been stated, Pennsylvania had 1,994 beds, and it will be seen that New York state had considerably more than three times that number. Massachusetts had 2,465, Ohio 1,252 and Indiana 312 beds. The figures exhibiting the proportion of each class of beds for the various states are of especial interest. It will be seen that 38 per cent. of Pennsylvania's beds were under state control, 25 per cent. were municipal beds, and the balance philanthropic or private. In New York only 5 per cent. were state beds. Three times that many beds were in county institutions, and the remainder were equally divided between municipal and philanthropic. The suburb equipment of New York City, of course, greatly swelled the state total of municipal and philanthropic beds. Massachusetts had both numerically and proportionately the largest number of state beds. The figures for Ohio and Indiana speak for themselves. It should be noticed in passing, however, that in both of these states, county beds furnish no inconsiderable proportion of the total equipment.

8. *Tuberculosis Dispensaries.*—The number of dispensaries for treating tuberculosis in operation in Pennsylvania in 1909, was 123—113 state dispensaries, and ten others. Eight of the state dispensaries were added, and two dispensaries of private foundation were closed during the year.. Twelve of the dispensaries were in Philadelphia, and seven in Allegheny County. The remainder, all health department dispensaries, are scattered throughout the state, at least one in each county. In this respect, the dispensary situation in Pennsylvania is unique.

Last year 22,084 patients were treated—16,321 in the state dispensaries, and 5,763 in other dispensaries. Milk (1,402,000 quarts) and eggs (190,600 dozen) were given out through the state dispensaries, and 106,600 quarts of milk by all other dispensaries. There was a tendency on the part of the private dispensaries to diminish or entirely to eliminate the supply of milk and eggs to patients. The distribution on the part of the state dispensaries, on the other hand, was greatly in excess of 1908. There were 187 physicians and 110 nurses in the state dispensary service on Jan. 1, 1910.

On account of the dispensaries provided by the health department, Pennsylvania has a far greater number of dispensaries than any other state. New York state, including New York city, has but fifty, Massachusetts seventeen, and the number is even less in other states. Delaware is the only other state besides Pennsylvania having tuberculosis dispensaries under state control. Some consideration was given in Massachusetts to the advisability of establishing dispensaries under the control of the state, but the abandonment of the idea was strongly urged on the ground that the dispensary, essentially a local agency, should be under local control. The local health boards were held to be the proper agencies to conduct dispensaries. The special tuberculosis commission in Connecticut also held the dispensary to be without the sphere of state responsibility.

9. *Tuberculosis Classes.*—If my source of information is reliable, there were but two tuberculosis classes in Pennsylvania in 1909, both in Philadelphia. There were formerly four such classes, but two had been discontinued prior to last year. The Presbyterian Hospital class numbered 130 and the University of Pennsylvania class twenty members. Physicians were in charge

of both classes, a nurse aiding in the work of the former class, and a social worker from the University of Pennsylvania assisted in the university class work.

10. *Antituberculosis Associations.* — Of antituberculosis associations, there were besides the state society, fifteen local societies. Three more have been added since 1909 as a result of effort which had its beginning in that year. A variety of work was undertaken by these societies. The Berks County Tuberculosis Society founded the Neversink Mountain Sanatorium as a result of a remarkable campaign which culminated in the autumn of 1909. The Pittsburg League maintains a hospital, a dispensary, a farm for cured patients and patients with arrested tuberculosis, an open-air school and a research laboratory, besides doing educational work which will receive later mention. The Scranton Society maintains West Mountain Sanatorium, which cared for fifty-four cases last year. The Wyoming Valley society during the summer of 1909 cooperated in a better-milk campaign, to which is attributed the 41 per cent. reduction in infant mortality which vital statistics of Wilkes-Barre show took place last year.

Several of the societies supplemented the work of local dispensaries by furnishing food, clothing, rent, etc., to dispensary patients, or by paying the railroad fare of patients to sanatoriums. Efforts to abate the spitting nuisance also formed part of their activities.

Without critical intent, it may be said that if some of the local societies concentrated on preventive work, it would probably be productive of more lasting results than has some of the work in which they have engaged in the past.

During the closing months of 1909, the Christmas stamp sale directed by the state society yielded a fund of over $12,000. The major part of this was used locally as a stimulus to antituberculosis work.

11. *Educational Work.*—The antituberculosis propaganda should spread in three directions: to the public; to the patient; to the profession. Last year the educational work of Pennsylvania was directed particularly at the public, and more particularly at the child in the school. The thousands of patients of sanatoriums and dispensaries were, of course, instructed, both by printed literature and by oral advice from nurse and physician, and this educational process was undoubtedly of great preventive value.

The health department by lectures and its exhibit, which was constantly itinerant throughout the state, estimates that it reached 210,000 persons last year. Many of these were school children. The state antituberculosis society in addition to its work of organizing and directing local effort, distributed over 150,000 pieces of literature, treating of personal hygiene and preventive measures. Its exhibit and lectures reached 102,000 persons, 80,000 of whom were Philadelphia school children, and 7,000 factory employees. In cooperation with the national association, fortnightly news articles were supplied to over 250 Pennsylvania newspapers. In Pittsburg the Tuberculosis League not only provided lecturers for the schools, but issued booklets on tuberculosis, especially adapted to the respective needs of pupils and teachers.

Pennsylvania was surpassed only by New York in the amount of literature distributed, and the number of patients treated.

12. *Legislation.*—The following tuberculosis legislation was enacted last year: An act of May 11, 1909 to provide "For the further protection of the public health by prohibiting spitting in public places" was passed by the Pennsylvania legislature, after a propaganda which had been initiated by the Pennsylvania Society for the Prevention of Tuberculosis. A test of the law was subsequently made by the arrest of an offender. The conviction of the violator indicates that the law will be upheld by the courts.

In 1909 legislative appropriations subsidized five charitable tuberculosis agencies. The sum of $94,500 was devoted to this purpose, as against $366,500 to seven agencies in 1907. Two million dollars was appropriated to be used by the State Department of Health for two years' tuberculosis work, as against $1,000,000 in 1907. The appropriation in 1909 leaves the expenditure of the two million to the discretion of the commissioner of health, subject to the approval of the governor.

Many states passed important tuberculosis legislation in 1909. A hasty survey of a few representative acts will serve to indicate the attitude of other states in the administrative control of tuberculosis. New York, Ohio, Minnesota and Connecticut all passed laws in 1909 providing for the establishment of county hospitals for consumptives. The New York law authorizes boards of county superintendents to erect, equip and maintain county institutions, giving power to levy taxes for this purpose. Residents of the county suffering from tuberculosis, or of other counties (on compliance with certain conditions), are eligible for admittance. The cost of maintaining indigent patients is chargeable to the county. Wherever possible, patients or legally responsible relatives are required to pay, but not to exceed the average *per capita* cost of the patient's support. With minor differences the laws of Ohio and Minnesota are the same in effect. The segregation (in county infirmaries) of persons suffering from pulmonary tuberculosis, is mandatory in Ohio; and both states provide for counties uniting to establish such institutions. The principal difference in Connecticut is, that the state bears the cost of building and equipping and shares in the cost of maintaining patients.

13. *Significant Features of the Year's Work.*—As has been said, $2,000,000 was appropriated in 1909 for tuberculosis work. In no other state has such an immense sum been set aside for tuberculosis purposes. The appropriation of $1,000,000 a year for tuberculosis was a momentous event in the history of the movement, and the expenditure of this fund to control the disease constitutes an experiment which is being watched with keen interest.

Of municipal activities the Pittsburg Tuberculosis League's effort to secure a city tuberculosis plan is perhaps the most significant. A municipal tuberculosis commission was appointed, and the result of the investigation of that body made clear the need of coordination of the work of Pittsburg's tuberculosis agencies; of the centralization of the work in the board of health; and of hospital provision for indigent cases. A house-to-house canvass of a large portion of the city discovered over 4,000 suspected cases, in 73 per cent. of which the patients were in need of aid or instruction. The subsequent effort to secure a $250,000 bond issue for a tuberculosis hospital unfortunately failed.

In Berks County the founding of the tuberculosis society, the raising of a fund of $18,000 and opening of the Neversink Mountain Sanatorium, caring for twenty-one patients, was all accomplished in a year. The institution is designed especially to care for Berks

County patients; all the beds are free, and support is derived solely from voluntary contributions, mostly small. This furnishes a striking example of what can be accomplished by a people aroused to a sense of responsibility for meeting local tuberculosis needs.

A recognition of this responsibility and an attempt to provide for local needs, was made on somewhat different lines in Luzerne County. The Wyoming Valley society initiated an agitation to provide a hospital for indigent tuberculous cases, through the directors of the central poor district, which includes the city of Wilkes-Barre. The movement was eagerly supported by the church, the press, the profession, trade organizations and tax-payers. A committee of the poor board reported in favor of the project. The directors, however, refused to act, declaring that they could find no law giving them the right to erect such an institution, and insisted on waiting to see if the next legislature would pass enabling legislation.

Whether or not counties in Pennsylvania have the right under existing legislation to erect and maintain hospitals for indigent consumptives, in view of the zealous effort on the part of residents of Luzerne County to secure such an institution, and of the general need throughout our state for segregation of advanced, indigent consumptives, is a matter of the utmost importance. It has therefore seemed worth while to obtain legal opinion regarding this, but in view of the limited space at my disposal, only the following bare conclusions can be quoted:

> With regard to the counties in general, therefore, as provided by the general law of the state, buildings can be erected for the maintenance and employment of the poor under the act of June 4, 1879, and hospitals to prevent the spread of infectious diseases (including tuberculous disease) may be erected by the commissioners of the county, by following the provisions and procedure of the Act of April 17, 1866, to the effect that where such hospitals are to be erected the construction thereof shall be recommended by the directors of the poor, a grand jury and the court of quarter sessions of the proper county.
>
> Throughout the state prior to the passage of the general acts above referred to, a number of poor districts, including that of Luzerne County were created by special act. In the case of any such district created prior to the passage of the general act of 1866, providing for the construction of hospitals, the special act is not repealed by the provisions of the general acts subsequently passed. It is the practice of the court to harmonize the provisions of the two, making the provisions of the general act apply to the conditions under the special act. It is, therefore, our opinion that in a case such as the central poor district of Luzerne County, created by the act of 1860, that the law provides for the erection of hospitals for the care of indigent consumptives. It is highly improbable that additional legislation would be made because general laws already exist.

At present any discussion of county hospitals would be incomplete without reference to the situation in New York state. In the autumn of 1909, following the enactment of the law permitting county supervisors to build hospitals for the care of consumptives, the state department of health and the state charities aid association instituted a campaign of education to show the need of such institutions. As a result of a half year's agitation, eight counties made appropriations, aggregating $233,000. Two county institutions are already receiving patients, and construction is under way in others; while fourteen county boards have appointed committees to study the subject. The campaign will speedily be carried into every county in the state.

The appropriations in New York state have been on the basis of a cost of $500 per bed for construction, and $1.25 per day, or $456.25 per patient per year for maintenance. Let us apply these figures to a few counties in our own state, using the number of deaths from tuberculosis last year as a basis. In Bucks County there were 111 deaths; but it is not to be supposed that all of this number required, or could have been persuaded to accept hospital care. Assuming that 111 deaths represent the annual average of deaths from tuberculosis for Bucks County, and that about one-half that number of patients could be induced to accept hospital care, then the number of beds needed would be approximately sixty, the first cost of the hospital would be $30,000 and a year's maintenance would cost $27,375. In some instances counties might unite to support a hospital. This possibility is illustrated on the table by Cameron, Elk and Potter counties. In others there are cities large enough to assume responsibility for municipal care, as for example, Scranton, in Lackawanna County.

III. CONCLUSION:—PENNSYLVANIA'S TUBERCULOSIS NEEDS

As a result of a survey of the tuberculosis situation in our state last year, certain apparent needs emerge. Among these, both for the state as a whole and for particular communities, is the need of coordination of effort on the part of all agencies engaged in antituberculosis work. At present, state, city and philanthropic agencies are working to a large extent as though on each devolved the whole responsibility for putting into effect every measure known to be efficacious in the control of the disease.

There should be tuberculosis planning, both state and city. To secure efficiency there must be a rational division and direction of labor. The lines of attack on tuberculosis should meet, but not cross.

Unquestionably the most pressing need in our state is for hospital provision for advanced cases, particularly those of indigent patients, since these constitute the greatest menace. This is essentially a local problem. It is not for the state to make such provision, since that would involve the transportation of the consumptive to a great distance from home, and not only is the transportation most detrimental to the patient, but many patients cannot be persuaded to leave home at all. Furthermore, the policy in Pennsylvania seems to be for the state to care for early cases. On the other hand, city hospitals would make no provision for rural cases. It would therefore seem that it is the function of the county to provide for such cases, and we have seen that not only has this been done in other states, but that there seems to be a growing sentiment in favor of such provision in certain parts of our own state. When Pennsylvania possesses such means for the isolation of its advanced consumptives, the most pressing need will have been met, and the best step taken to secure control of tuberculosis.

Hemolytic Test for Tuberculosis.—P. Bermbach calls attention to the fact that horse erythrocytes are dissolved by lecithin and tuberculous serum, but not by normal human serum. If serum from a tuberculous individual is added to a 1 per 10,000 solution of lecithin, the combined action of the two will dissolve horse erythrocytes in a concentration in which neither alone is able to induce hemolysis; normal serum has no such action. His communication on the subject was published in the *Zeitschrift für Tuberkulose.*

LOCALIZED EDEMA IN THE LUMBAR REGION FOLLOWING THE USE OF SALVARSAN (606)

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KANSAS CITY, MO.

At present, while our knowledge of the effect of the Ehrlich-Hata preparation on man is still in the making, a careful tabulation of the various phenomena that occasionally develop after its administration is often of value and always of interest. Since the latter part of October, 1910, I have employed salvarsan in forty-two cases of syphilis and one case of chronic pemphigus. Up to this time, I have noted no untoward action in any instance. The method of administration employed has been that of Alt,[1] phenolphthalein being used as an indicator; and all of the injections have been made in the interscapular region.

In three instances an urticarial eruption, confined to the trunk, resulted, and in one case a scarlatiniform rash developed. These manifestations were quite evanescent, and completely disappeared in the course of eighteen or twenty-four hours. In two of my cases, however, a peculiar subcutaneous elevation, which I have not seen described by other writers, appeared in the lumbar region forty-eight hours after the administration of the drug. In each instance the tumor was oval in outline, and measured 4 by 10 cm., its long axis being parallel with that of the spine, and its lower border on a level with the top of the sacrum. The two were of the same height, about 2 cm. The lesions appeared suddenly, and attained their full size in five or six hours. They were painful, and very tender to the touch. At no time could fluctuation be obtained. They gradually disappeared, in the course of five or six days, leaving no trace. In each instance, the drug had been injected at a point 30 cm. or more from the tumor site, and there was no traceable connection between the needle-wounds and the elevated area.

The first case occurred in a married woman, housewife, aged 43. The disease was of six years' duration, and there were present numerous tubercular syphilids on the face and chest. The initial Wassermann reaction (the serum tests were made by Dr. W. K. Trimble) was decidedly positive, while the second, made ten days after the administration of 0.6 gm. of salvarsan, was negative. No albumin or casts could be found in the urine at any time. The temperature rose to 101.5 F. on the second day, and the patient suffered considerable pain.

I at first thought the lesion was one of "giant urticaria," but the symptoms and course were not those of Bannister's disease. The subjective symptoms were practically *nil.*

The second patient was a man, sales agent, aged 38. The affection had been acquired fifteen years previously, and there were no visible lesions. The first Wassermann test was positive, and the second, made nine days after the injection of the drug, was negative. In this instance also the patient suffered rather severely, and there was considerable fever (101 F.) forty-eight hours after the treatment was administered. Urinalyses made before, during and after the attack showed nothing abnormal.

In neither instance was there any tenderness over or on either side of the spine in the space intervening between the injection wounds and the tumor. The skin overlying the mass appeared normal. Permission to do a biopsy could not be obtained in either case.

I am at loss to account for the cause of these edematous tumors, unless we consider them as lesions of urticaria gigans. The explanation accepted for Herxheimer's phenomenon is hardly admissible here, unless there was present a subcutaneous luetic focus in the affected region prior to the use of the drug. The severity of the reaction that followed the administration of the agent in both cases, however, together with the brevity of the space intervening between the injection of the salvarsan and the occurrence of a negative serum test, are very suggestive of the results that sometimes follow the sudden liberation of large amounts of treponemal endotoxins.

610 Commerce Building.

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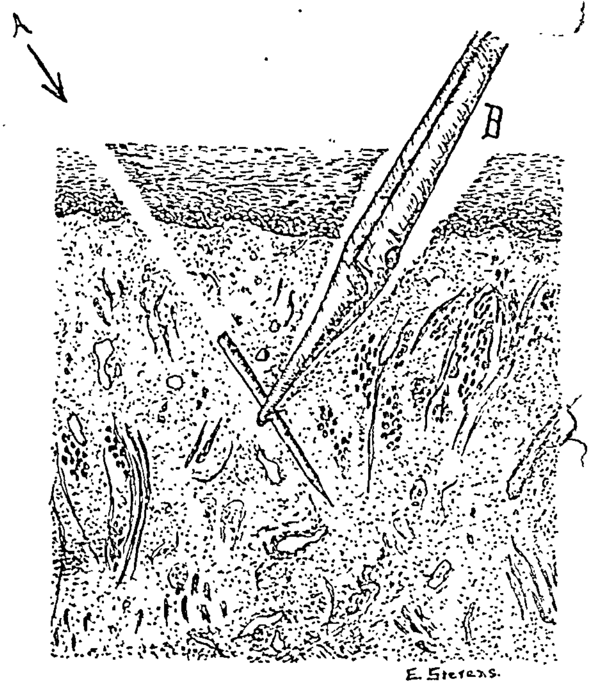
[1] Alt: München. med. Wchnschr., 1910, lvii, 1774.

THE REMOVAL OF SEWING-NEEDLES FROM SUBCUTANEOUS TISSUES

E. P. QUAIN, M.D.
BISMARCK, N. D.

The removal of a sewing-needle, or other similar sharp-pointed foreign body, from the soft subcutaneous tissues becomes, at times, a more complicated procedure than the simple injury would seem to indicate. A local anesthetic is usually injected, and an incision made through the punctured wound with the hope of seeing or feeling the broken end of the needle in the bottom of the incision. Often one is surprised at the difficulty encountered in the search for the needle. Even after the end of the needle is located with the finger, it is not always readily grasped with a forceps and pulled out.



Method of removal of sewing-needle or other sharp-pointed foreign body from the tissues. A, long axis of needle; B, incision through which forceps is introduced to grasp the foreign body.

The broken end of the needle is blunt and rough. In making the incision considerable pressure is brought to bear against this end of the needle, and the sharp point at the other end is pushed still farther ahead, if the tissues in front be easily penetrable. After the incision is made, a forceps is usually pushed down as far as possible in an effort to grasp the end of the needle. It may succeed. More often, however, it is found necessary to push the forceps repeatedly into the tissues in various directions, each time pulling up nothing but small lumps of fat and a few connective tissue fibers, and each time pushing the needle in a little farther. The soft parts, which are raised with the forceps, and then let go when it is found that the bite did not contain the needle, also help to protect the broken end and to push it still deeper. The finger introduced to feel for the needle is apt to have the same effect.

The following procedure has served me well, and is now the one of choice in emergencies of this kind:

The position of the broken needle should first be determined. It may not be perpendicular to the skin, but may have taken a slanting course and lie nearer the surface on one side of the punctured wound than on the other. The history of the injury, together with careful palpation, will aid in this examination, but in the *x*-ray we have the most valuable adjunct in determining the position of the needle. After this is settled, a local anesthetic should be injected and an incision made some little distance from the point where the needle entered, and on that side toward which it traveled when entering. The distance may be one-half inch or more, depending on the depth and slant of the needle. The incision should be made so as to strike the long axis of the needle in a plane approaching as nearly as possible a right angle. The knife will thus cut down on the side of the needle, which is readily made out and grasped by means of a small forceps.

It is often impossible to extract the needle through this right-angled incision without danger of breaking it, or of causing anatomic injury. The needle should then be held firmly by the forceps while another small incision is made through the skin at the point where the needle entered. It will be found an easy matter to push the needle out through this opening by means of the forceps.

THE USE OF COLOPHONIUM IN DIFFERENTIATING THE EOSIN-METHYLENE-BLUE AND OTHER STAINS *

S. B. WOLBACH, M.D.
BOSTON

One of the most important of the regressive staining methods used for general histological work is the eosin-methylene-blue method, hitherto only applicable to tissues fixed in Zenker's fixative. A successful stain by this method yields better results for cell-differentiation and the study of fine structures than any other single staining method. Its use has been limited because of the difficulty of securing constant results. Inquiries made in various laboratories, and the results of personal experience in a number of laboratories, have shown that the one uncertain step in the staining method is that of differentiation. It has been generally known that alcohols from different sources do not act alike when used for differentiation. The result of an attempt to determine the variable ingredient in the commercial 95 per cent. alcohol has yielded a method for differentiation which has given uniform results over a period of one year with a large number of alcohols.

The eosin-methylene-blue stain is fully described elsewhere.[1] In brief, the method is that of overstaining with eosin and then with alkaline methylene blue, followed by differentiation with 95 per cent. alcohol. The commonest failure is an imperfect eosin stain. Experiments made with absolute alcohol diluted with distilled water show that a pure alcohol abstracts the eosin too rapidly. The same results were obtained with freshly prepared methyl and ethyl alcohols furnished to the laboratory by a Canadian distillery. In the attempt to obtain an alcohol that would yield constant results, the addition of small quantities of organic and inorganic acids was tried. Similarly, minute traces of alkali were tried, and while it was found that the reaction of the alcohol had an appreciable effect, the results were not satisfactory. As most of the alcohol used in the United States has been kept in bond for a considerable time, it was thought that substances extracted from the wood might affect the behavior. Accordingly, the addition of colophonium in varying amounts was tried, and it was found that the presence of this substance furnished a certain method for obtaining any desired effect achievable by the eosin-methylene-blue stain. Furthermore, the addition of colophonium in large amounts has made the eosin-methylene-blue method applicable to tissues fixed either with formaldehyd solution or alcohol, and permits the use of commercial grades of methyl alcohol and methylated spirits in place of the more costly 95 per cent. ethyl alcohol used in differentiation. For these reasons it was decided to publish this apparently trivial laboratory "wrinkle."

At first, only carefully selected pale colophonium was used; later the darker variety has been used with ordinary methylated spirits, and the results are fully as satisfactory as those given by the more expensive materials. As far as could be learned from one year's experience, the permanency of the stain is not affected. The amount of colophonium necessary naturally varies with the length of time that the alcohol has been in the wood. For general tissue staining, the best results have been obtained by the addition of 0.75 to 1.5 per cent. of colophonium by weight; for special purposes the addition of larger amounts is necessary. In general, it may be stated that the greater the amount of colophonium in the alcohol, the more intense is the eosin stain, so that, by varying the amount of colophonium, we can attain any desired effect; a useful procedure, when one becomes interested in structures that stain faintly with one or the other stain.

For the differentiation of tissues fixed in formaldehyd solution or alcohol, the amount of colophonium required is much larger; 10 per cent. by weight has given the best results for general purposes. It is believed that the use of methylene blue and eosin method with tissues fixed with formaldehyd solution offers many advantages for the study of cells indifferently preserved by Zenker's fixative. As examples, in formaldehyd-fixed tissues, mast cells are brought out prominently and the contents of mucus-secreting cells are clearly defined, and in the early stage of secretion appear as deeply stained, bright blue granules. The only difference in the application of the stain to tissues fixed in formaldehyd solution and alcohol, is a slight reduction in the time that the methylene blue is allowed to act. As a rule, as soon as the sections have become deep blue in color, they are sufficiently stained.

Very good results have been obtained in staining Gram-negative bacteria in tissues fixed with formaldehyd solution. Ten per cent. of colophonium in acetone has given slightly better results than the corresponding alcoholic solution. It is possible to obtain deeply stained bacteria in tissue, such as the typhoid bacillus, and still preserve a fair nuclear stain in a deep eosin tissue-stain.

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* From the Pathological Laboratory of the Montreal General Hospital.

[1] Mallory and Wright: Pathological Technic, Edition 4, 1908.

In differentiating with the colophonium, alcoholic or acetone solutions, the sections may be transferred directly from water into the solution. The white precipitate that results rapidly dissolves. After the differentiation is completed the sections are washed rapidly in absolute alcohol, cleared in xylol and mounted in balsam. The differentiating solution may be used over and over again, as long as it remains clear, or until too much water has been carried into it by the sections. Some samples of colophonium give a cloudy solution in alcohol, and in this case it is necessary to allow the solution to settle and decant or filter.

Whether the action of the colophonium is a chemical or physical one has not been determined. It has been suggested that its action depends on the presence of organic peroxids,[2] but the results cannot be duplicated by the addition of hydrogen peroxid or by gum guaiacum, which is richer in peroxid than colophonium.

Another application of the colophonium method is in the differentiation of sections stained by Giemsa's method.[3] In place of the mixtures of xylol and acetone, which Giemsa gives for differentiation, a solution of colophonium and acetone may be used that enables us to control accurately the relative intensities of the red and blue elements. For general purposes, the addition of 20 per cent. of colophonium by weight gives the best results. After staining, the sections are transferred to the acetone-colophonium mixture, and when sufficiently differentiated, are washed rapidly with a 5 per cent. solution of xylol in acetone, cleared in xylol and mounted in cedarwood oil. The amount may be increased or decreased according to the effect desired. As in the other staining methods, the greater the amount of colophonium, the deeper the resulting eosin stain.

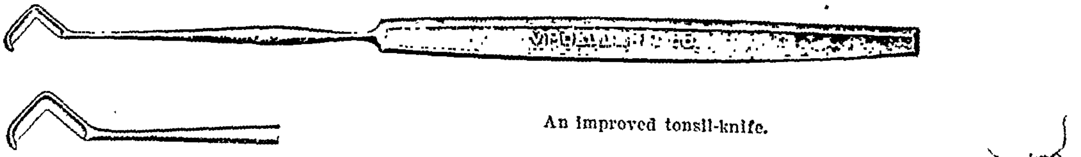
Still another use of colophonium and alcoholic mixtures is in the application of Gram's method for bacteria in tissues. The solution, in amounts between 5 and 10 per cent. by weight, seems to be a more energetic tissue decolorizer than pure alcohol, and yet leaves the bacteria stained a deep blue-black. It does not act so energetically as anilin oil, but gives more constant results.

240 Longwood Avenue.

AN IMPROVED TONSIL-KNIFE

G. L. KING, M.D., Alliance, O.

In this day of development of the comparatively new operation of tonsillectomy, an instrument which simplifies the operation or hastens its completion, is of advantage to the profession.



An improved tonsil-knife.

I have devised for the purpose of quickly and more easily enucleating tonsils a knife of small size with both angles sharp, as shown in the illustration. Its small size assists very greatly in its manipulation within the mouth. It can be used with dispatch for dissecting in almost any direction and is usually the only knife I find necessary in preparing for the snare, and it can even be used with advantage to complete the enucleation of the tonsil either under local or general anesthesia.

It will be noticed that the distal end is patterned somewhat after Dr. Douglass' knife, with a probe point, but instead of this joining a straight handle, it joins at nearly a right angle, an equal cutting surface, which greatly facilitates its use in this difficult location.

CEREBROSPINAL MENINGITIS

VENTRICULAR PUNCTURE WITH INJECTION OF SERUM

S. RAVAUD BENEDICT, M.D.
Athens, Ga.

In reporting this case it is not my object to go into a full description of the condition which existed up to the time of the puncture of the ventricle, but a few words will give a clearer insight into the condition which existed before the operation.

History.—The patient, J. J. C., aged 16, was admitted, on Oct. 4, 1910, to St. Vincent's Hospital, New York, where I was then house surgeon, and a day or two later developed a typical case of cerebrospinal meningitis with classical symptoms. Examination of the spinal fluid corroborated the diagnosis. On admission the temperature was 105 F., pulse 90, respirations 26. Delirium developed in a few hours and continued up to the time of the operation, with short intermissions.

The temperature fluctuated between 101 and 104 F. until October 20, when I opened the skull. From the date of admission, October 4, to October 20, seventeen spinal punctures were done by Dr. Walters, house physician, to whom I am indebted for the above information. The first puncture showed the fluid to be cloudy with a marked amount of pus; on each succeeding aspiration the amount of fluid and pus diminished, until finally Dr. Walters was unable to obtain any fluid after several punctures on different days. In all, he r[illegible] one and three fourths pints of fluid and injected one pi[illegible]rum.

Operation.—At this point in the case I decided to [illegible] the ventricle. After consulting a number of authorities I found that the previous operations were performed by using a small bore, going through the skin and skull without incision. As this necessitated working to some extent in the dark, I concluded that a regular trephine operation would be better, and therefore, after the usual precautions for opening the skull, I selected a point an inch and a quarter posterior to the external auditory meatus, on Reid's base line, and from this point I drew an imaginary line vertically, and took a point one and a quarter inches above my original point. I next made a horseshoe flap, opening down and trephined the skull, removing a small button one inch in diameter. With a large three-inch aspirating needle, as used in spinal punctures, I went through the dura, the needle being directed towards a point 3 inches above the opposite external auditory meatus. At a depth of two and a quarter inches I aspirated about half an ounce of very cloudy cerebral fluid, which, on examination, showed a large number of pus cells. In all I removed an ounce and a half of fluid and injected 20 c.c. of antimeningitic serum, closing the wound without drainage.

Postoperative History.—The patient's condition showed marked improvement and when asked how he felt, he answered very distinctly, "I feel a hundred per cent. better." His speech was more coherent and he was much quieter than before the operation. His pulse, which was 140, dropped to 120; his temperature showing a marked reaction, rising from 101 to 103 F. in a few hours, but on the following day it had dropped to 100.4 F., the lowest for some days. The improvement was only temporary, for on the twenty-fourth, four days after, he became markedly worse and died with a temperature of 104.6.

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[2] Alsberg, Carl (personal communication): Bureau of Plant Industry, Washington, D. C.

[3] Giemsa: Deutsch. med. Wchnschr., 1910, No. 12, p. 5507.

Autopsy.—An hour after death an autopsy was performed by the hospital pathologist and an interesting condition was found. The right ventricle, into which I had injected the serum, was in a fairly good condition and contained only a slight amount of cerebral fluid, which was practically clear. The ependyma showed only a very faint trace of a previous inflammatory condition, proving conclusively that the serum had worked wonders, but, sad to relate, the left ventricle told a different story. It was filled with a seropurulent fluid of the same appearance as that which I had removed at the time of the operation; the ependyma was inflamed and covered with a thick purulent exudate.

At the time of the operation, little did I realize my mistake, so forcibly brought before me later, for had I trephined the other side of the skull also, the latter part of this report might never have been written. I learned the lesson well, and, if another opportunity offers, I shall not overlook the other ventricle, and I trust that some who have read this paper may profit by this mistake.

SYMPTOMS SUGGESTIVE OF BRAIN TUMOR RELIEVED BY THE CORRECTION OF A REFRACTIVE ERROR

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PITTSBURG

The case is that of a man 50 years of age, a railroader by occupation, who consulted me Aug. 24, 1909. During the last two and a half years he had suffered four severe accidents on the railroad. In one of these accidents the left side of the head was severely injured, but he apparently recovered from all of these accidents.

The symptoms for which the patient consulted me dated back three months and consisted of headache and dizziness of increasing frequency and severity. The headaches were located chiefly in the occipital region, although they were occasionally frontal. There was a good deal of pain in the temples. On a number of occasions the patient vomited before breakfast, and this vomiting did not seem to stand in any relationship to food ingested. He complained of double vision, and stated that within the last three months his sight had steadily failed, and that now he could read only headlines in the newspaper and count fingers.

The above symptoms, related here in the briefest manner, at once suggested a brain tumor. When I sent the patient to see Dr. J. E. Willetts I fully expected that he would report the presence of an optic neuritis; but on the contrary he found the eye-grounds perfectly normal and reported a marked refractive error.

I consequently turned the patient over to Dr. Willetts that he might go over his eyes and correct the refractive error. This he did and reported to me the following:

"Examination of patient's eye-grounds shows a normal fundus. There is no optic neuritis or other pathologic changes. He has a refractive error which I think is responsible for the symptoms presented, and have prescribed the following lenses for constant wear:

"R+2.00D=½° Pr. B. Out=20/20
L+2.50, D=20/20"

Oct. 23, 1909 (two months later) the patient reported to me that he was then free from headache and had been for a month past. He stated, indeed, that he was greatly relieved from the time the "drops" (belladonna) were put in his eyes. He has had no further attacks of vomiting. He looks brighter and better in every way. In short, it would appear as though his symptoms were due to the refractive error and had been entirely relieved by the glasses.

Westinghouse Building.

SOME "DON'TS" IN THE USE OF SALVARSAN

JAY F. SCHAMBERG, M.D., AND NATE GINSBURG, M.D.
PHILADELPHIA

The most recent advice from authoritative sources as well as our own experience, favors, in general, the employment of salvarsan by intravenous injection.

1. Don't use salvarsan in myocarditis, in advanced cases of tabes dorsalis and general paresis, in nerve syphilis affecting vital centers, in grave kidney disease, in cachectic and debilitated persons (unless the condition is due to syphilis), in aneurysm, in optic neuritis, and in persons with lesions (such as gastric ulcer) in whom increased blood-pressure may produce hemorrhage.

2. Don't use intravenous injections of salvarsan until you have fully qualified yourself and possess a detailed knowledge of the technic. Deaths have occurred and more will occur from unskilful administration.

3. In the preparation of the drug for intravenous use, don't use a solution made with common salt or undistilled water (such as is often supplied in hospitals), but use a specially prepared sterile physiologic salt solution made with chemically pure sodium chlorid; otherwise you may find it impossible to obtain a clear solution.

4. Don't under any circumstance inject into the veins a solution which is not *perfectly clear;* a flocculent or cloudy liquid may produce alarming symptoms of collapse or even death.

5. Don't use a solution any more alkaline than is absolutely necessary to secure a clear solution.

6. Don't inject the salvarsan into the veins without previously running in physiologic salt solution; if the needle is not in the vein you will infiltrate the surrounding tissue with the salvarsan solution and cause subsequent inflammation and unnecessary pain.

7. Don't infuse the solution into the vein too rapidly; it is best to have a needle of such a caliber as will require 8 minutes to introduce 200 c.c. of fluid. With the gravity apparatus, the rapidity of inflow can also be governed by the height of the receptacle.

8. Don't infuse a cold solution; the liquid should be about the temperature of the blood.

9. Don't use "glass pearls" in the mixing jar as is often recommended: we have found that minute particles of glass chip off which might cause embolism.

10. Don't use a routine dosage of the drug; the dose should be gaged according to the weight of the patient and the character of the condition to be treated.

11. Don't employ intravenous injections in your office or in a dispensary. The patient should be treated in a hospital and put to bed and carefully observed for a period of not less than three days.

12. Don't persist in the intravenous injection if the patient should show signs of collapse during the administration, but stop at once.

1922 Spruce Street—340 South Fifteenth Street.

Therapeutics

TRICHINOSIS

It is just half a century since Zenker, at the postmortem examination of a girl, who had been admitted to the Dresden Hospital, on Jan. 12, 1860, supposed to be suffering with typhoid fever, found the muscles full of living trichinæ. This was the beginning of the pathology of the disease in the human race. Tiedeman, in 1822, noted the presence of white, stony concretions in the muscles, and other observers subsequently described similar concretions, and Owen showed that they contained a worm, coiled up inside, to which he gave the name of *Trichina spiralis,* but Zenker was the first to examine a patient who had died from an acute attack of the disease. He found living trichinæ in the muscles, and trichinæ in the flesh of the pig, of which she had probably eaten two weeks before and which had apparently caused a similar, but not fatal, illness in three other persons.

To-day this disease is occasionally diagnosed, and probably many mild cases are never detected. Every physician should be acquainted with the symptoms in order that, if a patient comes to him suffering from the disease, he may not overlook it, and leave it for some other physician or a consultant to detect.

The symptoms which are usually noted in a case of trichinosis of ordinary severity are loss of appetite, malaise, headache, fever, nausea or vomiting, diarrhea, tenderness of the epigastrium, cramps in the abdomen and limbs, great prostration, swelling and soreness of the muscles and indisposition to move them, increased rapidity of respiration, swelling of the eyelids and feet, and sometimes of the knees, elbows, and ankles.

The two diseases for which it is most frequently mistaken are typhoid fever and articular rheumatism. The headache, fever, and diarrhea naturally suggest typhoid. The height and duration of the fever often make the resemblance to typhoid very striking; but the muscular cramps, the vomiting, the prostration and muscular weakness, out of proportion to the fever, the slight mental impairment, also not so great as is usually seen in typhoid with an equal degree of fever, the muscular soreness, and the edema of the feet and eyelids, when present, will generally enable the distinction between the two diseases to be made with reasonable certainty. If the disease is typhoid, the Widal reaction should soon be in evidence. In the cases with considerable fever, and in which swelling of the joints and soreness of the muscles are conspicuous, the trouble is sometimes mistaken for either articular or muscular (myalgia) rheumatism. When this occurs the limited number of joints affected, the edema of the eyelids, if present, the rapid respiration, and the absence of improvement under the use of the salicylates are generally sufficient to disprove the diagnosis of rheumatism.

When the pains in the limbs are troublesome and there is considerable weakness, without high fever, it might be suspected that multiple neuritis is present, but in trichinosis it can generally be determined that the soreness and pain are localized in the muscles rather than in the nerves, that the impairment of motion is due to the painfulness of voluntary muscular contractions rather than to paralysis. Also the headache, dyspnea, and edema of the eyelids will generally enable one to exclude disease of the nerves.

If vomiting, diarrhea, and muscular cramps in the abdomen and limbs are present, the disease may be mistaken for cholera morbus or other forms of cholera, or for ptomain poisoning, but the continuous fever, the headache, the muscular soreness, the continued prostration, and the edema will soon lead to a change of diagnosis. When the presence of trichinosis is suspected but cannot be definitely determined from the subjective and objective symptoms observable, microscopic examination of the blood will usually afford important aid in deciding the question. The blood examination, as a rule, shows a distinct leukocytosis, which, however, is not so great as is often seen in purulent infections and pneumonia. But the most striking feature observed in the blood is the marked eosinophilia which was pointed out by W. S. Thayer and Thomas R. Brown, in 1897, and which has since proved to be of great diagnostic importance. The percentage of eosinophils was found to be more than 20 in over half of William Gilman Thompson's series of fifty-two cases, and has been found to be above 80 per cent. in some cases. Thompson (*Am. Jour. Med. Sc.,* August, 1910) sums up the conditions that may cause an increase in the c [illegible] phils as follows: A moderate increase abo [illegible] normal of from 1 to 4 per cent. in adults, ha [illegible] observed in pneumonia before the crisis, in some [illegible] diseases, particularly dermatitis exfoliativa, dermatitis herpetiformis, pemphigus, psoriasis, prurigo, eczema and leprosy, in other intestinal parasitic affections, such as tapeworms, roundworms, and uncinariasis, in bronchial asthma, and sometimes after large doses of camphor, iodid of potassium, and salicylate of sodium. But in none of these conditions is it usual to see so large a degree of eosinophilia as in trichinosis and, furthermore, none of these conditions is likely to be mistaken for that disease.

Rarely, if ever, can the trichinæ be found in the stools or in the blood of patients who have the disease. But the crucial test, when it is practicable to make it, is the finding of the trichinæ in a fragment of the patient's muscular tissue removed by a harpoon designed for this purpose.

The symptoms usually appear about two weeks after the ingestion of the infected meat; sometimes a few days earlier, occasionally a week later. This corresponds to the time consumed in the development of the trichinæ in the intestine, the production of a new generation, and their migration to the muscles.

The fever may rise as high as 104 F., or even higher, and subsides gradually. It usually lasts for several weeks, but may disappear in less than one week, and has been known to persist for two weeks. After it has entirely disappeared it may return again, simulating the relapse of typhoid fever.

The increased rapidity of the respiration is probably due to involvement of the diaphragm by the trichinæ. Besides the edema of the eyelids, which is seen in about one-fourth of the cases, other ocular symptoms are not uncommon. Among them may be mentioned pain and burning in the eyes, distinct from the headache, corneal hemorrhage, diplopia, tenderness of the eyeball on pressure, pain on moving the eye, and photophobia.

Death is not a common result of the disease, and recovery is attended with calcareous degeneration of the capsule, which may be followed by fatty degeneration. Loss of flesh accompanies the disease, and anemia is a striking sequel.

The most important treatment is prophylactic. The disease is contracted by eating pork which contains the trichinæ encysted in the muscular fibers. As these are digested the worms are set free in the intestinal canal, where reproduction takes place with wonderful rapidity. The new worms pass from the intestine through and into the various tissues of the body, and finally lodge in the muscles, where they ultimately become encapsulated, although they may retain life for many years.

Uncooked pork, sausage, bacon, and ham are the principal things to be avoided, if one desires to escape trichinosis. The last few years have witnessed such an agitation over tuberculosis that government inspection has been largely directed toward the detection of this disease in the meat used for food, but there is no systematic inspection of pork intended for domestic consumption for the presence of trichinæ, although it is estimated that 2 per cent. of hogs are infected with this parasite. This would indicate the desirability of government inspection of all pork intended for domestic use as well as that for export, and gives great importance to the question of how the trichinæ can be certainly destroyed. Salting and hot smoking will generally kill them, but the only reliable prophylactic procedure is thorough cooking. It has been stated that a temperature of 140 F. will destroy the trichinæ, but, on the other hand, it has been found that they may survive a temperature of 180 F. The practice of the large packing houses is said to be to cook hams at a temperature of from 170 F. to 212 F., a general rule being to continue the cooking for thirty-eight minutes for each pound of weight of the ham. Perfect safety undoubtedly demands that they should be boiled at a temperature of 212 F. for several hours.

When infection has occurred and has been detected early, the first step in treatment is thorough evacuation of the bowels so as to remove any of the worms which may still remain in the intestines, for the trichina reaches its full development after it has been in the intestine for three days, and may continue to bring forth young during a life of some weeks. For this purpose probably nothing is better than a 5-grain dose of calomel, followed in six hours by half an ounce of sulphate of magnesium. It is good practice to cause two free movements of the bowels daily, for a week, to insure, if possible, the elimination of all the embryos of the worm. Also, thymol, in capsules each containing 0.10 gram (about 2 grains) should be administered four or five times in twenty-four hours as an anthelmintic and bowel antiseptic.

℞	Gm.	
Thymolis	2	or ʒss

Fac capsulas siccas 20.
Sig.: A capsule four times a day, taken with plenty of water.

At the end of a week, if there is any gastric or intestinal irritation, the following prescription is of value:

℞	Gm.	
Bismuthi subcarbonatis.............	20	ʒv
Phenylis salicylatis	5	or gr. lxxv

M. et fac chartulas 20.
Sig.: A powder, three times a day, before meals.

The stools should be examined at the end of a week for the worms, and then once every week for several weeks.

The above intestinal treatment is generally efficient. There is probably no good reason for giving several or repeated doses of male fern or santonin, which have been recommended to eradicate this worm.

Glycerin has been recommended, given internally, on account of its supposed ability to kill the worms by its hygroscopic properties. As it must be taken very well diluted not to cause nausea, it is a question of what value this treatment is. If well diluted it can do no harm, and may be used as an additional medicament. It acts also as a laxative. The dose would be a tablespoonful two or three times a day.

The diet should depend on the amount of fever, and under any circumstances for several days should be liquid; milk, broths, and cereal gruels.

There is no known way of destroying the larvæ or trichinæ in the muscles. Picric acid has been recommended as possibly having the ability to destroy the larval forms that are circulating in the blood. This is perhaps doubtful. The internal dose is 0.03 to 0.10 gram (½ to 2 grains) dissolved in alcoholic solution and taken well diluted. It is intensely bitter. It would seem unwise to use picric acid, which is likely to cause severe gastro-intestinal irritation, nervous irritation, and perhaps irritation of the kidneys, when there is such a large element of doubt as to its therapeutic value in this disease. There may be some justification for administration of large doses of quinin.

As after several weeks, perhaps six, the localizations of the worms in the muscles become encapsulated and permanently external to the body, so to speak, and forever after harmless to the host, it might be well to saturate the system with calcium salts, such as lime water, or perhaps better, the glycerophosphate of lime, in order to hasten the deposit of calcareous matter in the capsules surrounding the worms. Therefore, as soon as the active intestinal medication is over and the patient recovering, the glycerophosphates of lime should be administered. The patient also generally requires iron.

During the height of the fever, the patient may be restless and sleepless and require hypnotics or sedatives. On account of the muscle irritation the bromids or chloral are very valuable.

Although there may be considerable muscular weakness for some time after the acute symptoms are over, it would seem inadvisable to resort to massage or electricity, as these would tend to interfere with the normal isolation of the germs by Nature's methods.

The Culture of Human Lepra Bacilli.—F. W. Twort reported results of experiments in cultivating the lepra bacillus of man (*Nature*, Nov. 24, 1910). On account of the close relation between the tubercle and lepra bacilli it occurred to him as probable that they would require the same chemical substances for building up their protoplasm; which, however, could be elaborated from the ordinary media by the tubercle bacillus only. If these then could be furnished already made to the lepra bacillus it might be cultivated, and the easiest way to do this would be by adding to some good culture medium a proportion of ground-up bodies of tubercle bacilli containing them. He therefore made up a culture medium consisting of egg, 3 parts; 0.8 per cent sodium chlorid, 1 part; ground tubercle bacilli, 1 per cent.; and glycerin, 5 per cent. or less, mixed, placed in tubes, sterilized and set in slopes. Leprosy bacilli, previously treated to kill contaminating organisms, are inoculated on the tubercle medium. They grew as a delicate colorless streak and showed the typical morphologic and staining characters of the lepra bacillus. He proposes to follow up the work with experiments to make a lepra vaccine and to grow the lepra bacillus of rat.

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SATURDAY, FEBRUARY 4, 1911

ALCOHOLISM AND HEREDITY

Recently several studies of a statistical nature and dealing with the effects of alcoholism have been published by Professor Karl Pearson and his associates in the Francis Galton[1] Laboratory of Eugenics in the University of London.[2] The essential conclusions drawn by these investigators from their studies have been subjected to vehement criticism, especially by the outspoken friends of temperance, and a rapid-fire discussion has been carried on, the echoes of which we still hear. Like nearly all discussions of the alcohol question, this is marked by considerable extravagance of statement and by sharp personal conflict; nevertheless it will serve a highly useful purpose in bringing into wider prominence, and securing larger recognition for, the need and importance of unbiased and scientific study of the problems of alcoholism. Everyone will agree, it is believed, with Sir Clifford Allbutt when he says that "much of the literature of alcoholism is of a rhetorical rather than a scientific order, and the sooner scientific order and method are introduced the better."

Now the particular conclusion with regard to heredity which is drawn by the Eugenics Laboratory workers from the materials they studied and which has met such violent attack, is in substance that alcoholism in the parents does not *per se* result in deterioration of the physique and mental powers of the offspring. The critics, notably Sir Victor Horsley in association with Dr. Mary D. Sturge, assert that the evidence is altogether too slender to support so heavy a burden as this startling and revolutionary view. They charge the authors of the report with errors that invalidate completely not only this particular conclusion but also other conclusions from the same series of studies. It is probably altogether unnecessary to point out that Professor Pearson and his co-workers do not assert that alcohol may be taken with impunity or that it promotes evolution in an upward direction. They simply give the results reached through the study by their methods of certain data. Whatever the value of their statistical researches in the establishment of actual facts may be—and we must bear in mind that at present the data available for this kind of study necessarily suffer from incompleteness and other shortcomings—they bring us face to face with problems of the nature of the association of alcoholism and degeneracy.

It is customary to attribute to parental alcoholism many mental and physical defects; for example, epilepsy, mental and moral enfeeblement, certain forms of insanity, stunted growth, deaf-mutism, etc. But what about the possibility of an underlying hereditary defectiveness in these alcoholic parents which gives rise to defective offspring? And what about the view that alcoholism itself is the symptom or result of degeneracy rather than the cause thereof? Because degeneracy is associated to such an evident extent with alcoholism, it becomes necessary to exclude the subtle influences of hereditary degenerative tendencies before it can be shown conclusively that parental alcoholism uninfluenced by other factors exercises a determining effect on heredity and results in physical and moral degeneration of the offspring.

In his helpful address on "The Ancient Foundations of Heredity,"[3] A. B. Macallum points out that many of those vitally interested in these questions assume that heredity can be modified by accidental influences much more easily than is believed to be possible by most biologists. The problem of the hereditary influences of alcoholism as well as the closely related problem of such great import in study and prevention of inebriety, namely, whether alcoholism is an antecedent or a consequent of degeneration, are exceedingly difficult ones, on the correct solution of which much depends and which we can hope to solve only by means of the methods of general science.

MILK LEGISLATION

A bill, concerning the production and distribution of milk, which is of more than local interest has been introduced into the Illinois legislature. It seeks to place the inspection of dairies under state authority, and would prohibit cities from enforcing the tuberculin test or otherwise specifying the conditions under which milk should be produced. Incidentally, it may be remarked, the bill illustrates a certain well-defined tendency in American politics to keep cities and other local governing bodies as impotent as possible to perform services needed by the citizens—an impotence which never hampers the activities of the practical politician, as many good people innocently hope it may. The bill is the outcome of an investigation by a committee consisting of ten members of the state legislature, four senators and six representatives, none of whom claims to have expert knowledge of the conditions under which clean milk should be produced. The opposition of milk-producers to the tuberculin test is largely responsible for this investigation and for the existence of the state commission.

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[1] A notice of the death of Sir Francis Galton, with a brief summary of his scientific work, appears in the London Letter, this issue.

[2] Eugenics Laboratory Publications, 1910, xiii, x. For further references see Sturge and Horsley, Brit. Med. Jour., 1911, i, 72.

[3] Canad. Med. Jour., 1911, i, 1.

Almost at the same time, a committee was appointed by the Mayor of Chicago to investigate the milk-supply coming to Chicago. This committee, which has not yet made its report, is composed of a physiologic chemist, a veterinarian, a pediatrist, a bacteriologist, representatives of the Chicago Health Department, one member from the Public Health and Marine-Hospital Service, one from the City Law Department, a member of the State Milk Commission, a member of the Milk Dealers' Association and one from the milk-producers, with one of the aldermen of Chicago as chairman.

On account of the difference in the character of the two committees and the methods of procedure in the investigation, a comparison of their reports should be of interest. The city committee is investigating the milk question from a scientific as well as from a practical point of view. Literature regarding milk-production has been studied, and tours of inspection have been made to see the practical production, handling and pasteurization of milk. The investigations have not yet been completed, but from the character of the committee and the methods followed the results should be of value.

An entirely different procedure has been adopted by the state committee. Experts and so-called experts have been examined and their opinions collected. The value of this sort of investigation would depend on the competency of the witnesses as experts, and, as will be seen, this is perhaps open to some question. Under this committee, the chief points considered were the bacteriology of milk, pasteurization and the tuberculin test. The competency of some of this expert testimony may be judged from the following instances:

One witness stated that he had pasteurized a sample of market milk in his laboratory and found tubercle bacilli surviving. On cross-examination, it was brought out that in his method of examination he had not taken the precaution to avoid the formation of a film, which, as Theobald Smith has shown, is a protection to tubercle bacilli. Evidence that they were really tubercle bacilli was based on microscopic examination alone and not on the results of animal inoculation, which is the only safe means of differentiating tubercle bacilli from other acid-proof bacilli frequently found in milk.

Another witness stated that his unfavorable opinion of pasteurization was based on bacterial counts made by several thousand "chemical" examinations. The third witness was also able to distinguish different species of bacteria by microscopic examination. He was opposed to pasteurization because he found that the serum of pasteurized milk kept at room temperature for seven days killed a guinea-pig, while serum of raw milk kept seven days did not. This single experiment on two guinea-pigs convinced him of the toxicity of pasteurized milk. He did not consider the fact that neither raw nor pasteurized milk is usually consumed after seven days. The tuberculin test was condemned by many "experts" whose competency was not established on cross-examination. The results of such an investigation would hardly be convincing to scientific men or to men having a real knowledge of clean milk production and the menace of a tuberculous infection of cows.

As intimated by the chairman of the committee previous to the completion of the investigation, however, the committee in its report favored the abolishment of the tuberculin test and the taking of the control of the milk-supply out of the hands of cities and providing for its regulation by state inspection. The matter of pasteurization was ignored altogether by the committee in its report. These recommendations have been embodied in the bill introduced in the legislature. If this bill becomes a law, cities must accept the milk as delivered by the producers without authority of examination.

A law of this nature might be effective if a large and competent force of expert inspectors, veterinarians, chemists and bacteriologists were employed. This force would have to be sufficient to control the milk at the point of production, at the receiving and delivery stations, at the railroads, at the distributing stations, on the delivery wagons, etc. This would be an enormous task, one of much greater magnitude than would be necessary if cities were permitted to control their own milk-supplies.

Such a system of state supervision is in force in Pennsylvania. At a recent meeting of a county farmers' association in that state, a resolution was passed criticizing the system of dairy inspection instituted by the state board of health, because, as the members believed, it was not accomplishing the purpose intended, but had resulted unsatisfactorily, as might be expected. The selection of inspectors under the pay and allowances made by the state legislature had resulted in many of the positions being filled by men wholly without training or special ability for such serious and important work. The results would probably be no different in Illinois. But the significance of this criticism lies in the fact that it was made by the farmers, the milk-producers, the class in whose interest the legislation in Illinois was primarily instigated.

Other states have enacted or are contemplating the enactment of similar laws, and this makes the action of the Illinois commission and of the state legislature of more than state interest. Unfortunate conditions have arisen in Iowa on account of legislation which would prevent the city of Des Moines, the largest city in the state, from controlling its milk-supply. The law is being tested in the courts.

The value of the tuberculin test is accepted by men who are competent to express an opinion. Pasteurization of milk is also of undoubted value in the absence of the compulsory tuberculin test. The cattle-owner does not realize that not only is the presence of tuberculosis in his herd a menace to public health, but his herd cannot be as profitable as a healthy herd, and that, moreover, one tuberculous cow will spread disease rapidly to healthy cows. The production of clean milk is wholly a scientific and not a political or commercial question, and the mere idea that the lives of innocent babies should depend on political or commercial considerations is a monstrous one.

PREVENTION OF FOURTH-OF-JULY TETANUS

The duty of the medical profession in the matter of Fourth-of-July tetanus is distinctly threefold. First, it has an important function in securing legislation which shall prevent injuries from explosives; secondly, it must prevent tetanus and other serious complications resulting from such injuries; last, it has the almost hopeless task of trying to prevent a fatal outcome in those cases of tetanus which have been produced by Fourth-of-July injuries. Certainly the most logical point of attack is the celebration itself. That this foolish habit of an annual orgy of gunpowder and bloodshed is not one which cannot be broken has been shown in a number of communities. Last year, the city of Trenton, N. J., which previously had suffered severely in proportion to its population, adopted a prohibitive ordinance, suppressed the gunpowder celebration, and totally eliminated Fourth-of-July injuries; the previous year there had been fifty-nine injuries reported, with one death. In 1908, Cleveland had 105 injuries with twelve deaths; a prohibitive ordinance reduced the casualties to four in 1909 and one in 1910, with no fatalities. Baltimore by the same means has kept down the list of injuries, while Washington has had no injuries for two years. These examples, and many others that might be cited from the experience of smaller cities and towns, show that it is perfectly possible to eliminate all the physical injuries which we have so long associated with the Fourth of July, to say nothing of the loss by fire, nervous strain, squandering of money, and the inculcation into impressionable youths of bad ideas as to the free use of firearms and explosives.

Restrictive measures give results in direct proportion to the vigor with which they are enforced, but, like most compromises, are satisfactory to no one. New York by this means reduced the number of injuries from 552 in 1909 to 185 in 1910, six of the latter being fatal; in Chicago the usual number of accidents was cut to less than half, but still there were sixty-six injuries with four deaths. Evidently, then, it is the plain duty of every community which has permitted the use of explosives in Independence Day celebration to put an absolute stop to the practice. While an ordinance prohibiting the use of blank cartridges, firearms and giant crackers would, if enforced, abolish most of the dangers of the Fourth, yet experience shows that such an ordinance cannot be enforced. Only when the sound of any explosive means a violation of the law can the more dangerous explosions be prevented; furthermore, hundreds of accidents, many fatal, are annually caused by the so-called harmless fireworks. If boys are given a mild taste of the joys of noise and devastation which gunpowder can produce, they will seek and discover ways of getting more; but if for a very few years this sort of celebration can be prevented, the demand for it will vanish with the coming in of a new generation of small boys who know not what they have missed. During the transition period, substitution in the way of parades, picnics, sports and other wholesome means of entertainment may be advantageously employed, and in time these things will undoubtedly develop in a way to make our great national holiday fully as memorable and a much more appropriate day in the calendar.

In bringing about this change there is every opportunity for medical men, and especially for medical societies, to do much for public welfare, and this is the time of year in which to begin work which will secure results. If local medical organizations will use their opportunities to influence public opinion through the press and personally, in nearly all communities they can make it possible to secure legislation which will abolish the Fourth-of-July carnage. Through properly directed efforts medical societies can secure the introduction and passage of suitable ordinances, and can greatly assist in their enforcement. Probably there are few directions in which concerted action can accomplish so much immediate good as this, and it is a service which every medical society should seek to perform for its own community. THE JOURNAL stands ready and prepared to furnish data on the results of past celebrations, and advice as to the prevention of future harm.

THE INFLUENCE OF THE PRINCIPLE OF SPECIFICITY ON MODERN MEDICINE

The term "specificity" has come into such every-day use that we are in danger of losing sight of its broader significance among the countless special points of application which are closer to our eyes. It is the opinion of Wassermann, expressed in a recent address on this subject,[1] that it is recognition and investigation of this fundamental biologic principle which characterize the present era of medical science and to which its progress is most largely due. We owe to Robert Koch its first definite statement, in the declaration that every infectious disease is caused by a definite agent, and that this agent is found always in that special disease, and that no other disease is produced by that agent; in other words, the causal organism is specific for the disease. The next step came with von Behring's discovery that in response to invasion by the bacteria or their poisons the body reacts with the production of substances which are specific for the products of these bacteria. For some time the idea of specificity was associated only with bacteria, but after a time it was found to apply equally to the proteins of the higher forms of life, whether of animal or vegetable nature, and now we recognize that a certain degree of specificity may exist even between different tissues and fluids of the same individual. Under certain conditions we can distinguish by biologic reactions between the milk and the blood-serum, or between the egg proteins and the tissue proteins, and possibly also between the proteins of different organs of the same animal. An interesting special case is furnished by the crystalline lens protein, which is so sharply differentiated from the other proteins of the animal that it acts to the animal which formed it as an entirely foreign protein; it is said to be possible to sensitize a guinea-pig with the lens from one of its own eyes so that it will be intoxicated when injected with an extract of the lens from the other eye.

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[1] Wassermann: Deutsch. med. Wchnschr., 1910, xxxvi, 1860.

Recent developments would seem to indicate that the phenomenon of specificity is not limited to the proteins, but may also be exhibited by the fatty substances, as in the relation of the lipoids to the serum reactions of syphilis. In echinococcus infection, we find the blood of the host developing substances which react specifically with the lipoids of the echinococcus, and not with similar lipoids from the tissues of the host.

The classical demonstration that tetanus toxin is fixed by nervous tissue, taught us that there exist specific relationships between body cells and poisons as well as between the blood-serum and poisons, and led us to an understanding of how toxins do their work. From this has in turn developed the appreciation that there are two possible ways of approaching our task of preventing harm from injurious agents: we may reduce or remove the specific affinity of the cell for the toxic substance, or we may turn toward the "noxa," as the Germans say, and render it incapable of combining with the cell. Of these two methods only the latter has received much attention or given much encouragement. Here we must place, not only our few efficient antiserums, but also the parasiticidal drugs. It was through his early appreciation of the generality of the laws of specificity that Ehrlich came, over twenty years ago, to develop the principle of specific chemical agents which should act on specific cells, this being before the discovery of specific serum therapy. From this has grown the new science of chemotherapy, based on the principle that the affinity of the drug shall be greater for the parasite or its poisons than it is for the cells of the infected individual; in other words, chemotherapy seeks for substances that combine specifically with the parasite or with its poisonous products, a requirement which had already been fulfilled through empiricism in at least one case, that of quinin and the sporulation forms of malaria parasites.

The growth period of medical science, which immediately preceded the present period, developed about the central thought of the dominance of the cell in structure, function and disease. Concerning itself largely with post-mortem material, and observing chiefly the steps leading away from physiologic integrity, medical thought inevitably took a pessimistic turn, and therapeutic nihilism was the logical outcome. But the central idea which in recent years has guided investigation is, Wassermann contends, that of specificity. Under its influence therapeutics comes again into its own, and optimism takes the place of nihilism as we cease to limit our faculties to the contemplation of the ravages of disease and turn our attention toward the living being, and the search for substances which have specific affinity for the cause of the disease, or for the organ we wish to affect.

The doctrine of specificity now dominates medical science, and we look for happier results from the new régime, trusting that as pathologic anatomy under the influence of the cell doctrine gave us a better understanding and more accurate diagnosis of disease, the study of specificity will add as much to our ability to control and cure it.

Current Comment

JOURNAL OF THE CANADIAN MEDICAL ASSOCIATION

With pleasure we note the advent in the field of official medical journalism of the new *Canadian Medical Association Journal,* representing the organized profession of Canada, the first number of which appears with the new year. The increase in the number of medical journals connected with and representing medical organizations is but an expression of the demands and the ideals of a modern conception of medicine, of which the passing of the proprietary medical school is still another phase. A journal which is unhampered and uninfluenced by commercial considerations, which receives the support and encouragement and the contributions of the best of the profession, and which may use its prestige, its wide circulation and the able services at its command to foster and carry out the ideals and objects of the profession, is the one that is in position to accomplish the most and best for both the public and the profession. For the modern conception of medicine is not only to elevate the profession, to make better educated, more skilful physicians, but also to discover methods and measures of prevention and to promote the public health. To do this requires education, legislation and the united support of the profession. As an aid in the creation of a perfect organization and in carrying out the measures proposed by such organization, the publicity made possible by an official journal is a most important and, indeed, an essential factor. Many of the state societies have established official organs which are a power for good in their respective fields. We are glad to see the national organization of Canada adopt this plan by taking over the *Montreal Medical Journal.* The editorial direction of the new journal remains the same, and the journal will continue to be issued from Montreal. The first number sets a very high standard, both in the character of the papers and editorially. A noteworthy improvement over the journal which it succeeds is the exclusion of numerous advertisements of objectionable proprietary preparations which have been shown to be fraudulent, misbranded or downright nostrums. In this respect the new journal sets a wholesome example, which might be followed with credit by its contemporary in the mother country, the *British Medical Journal*. We offer our felicitations to the *Canadian Medical Association Journal*.

MEDICAL EDUCATION AND PRACTICE IN JAPAN

According to a report from the American Consul at Nagasaki, commented on in the 1910 Report of the U. S. Commissioner of Education, Japan has two grades of medical colleges. To enter the ordinary medical colleges, eleven or twelve years of work in the elementary and middle schools are required, but for admission to the medical colleges of Tokyo, Kioto and Fukuoka universities, three additional years of higher preliminary training are required. The medical course extends over four years. Graduates from the imperial universities and other approved medical schools must secure a license from the minister of home affairs before they begin to practice. A graduate of a foreign medical school or a holder of a physician's license, coming from a country that licenses Japanese physicians without examination, may be licensed by the minister of home affairs. No person may practice medicine who has been sentenced to imprisonment or fined in connection with medical practice. Books must be kept by physicians for ten years, and the names, ages, residence, professions, and the names of diseases of patients and the method of treatment applied to them must be entered therein. Physicians may not make a false advertisement by boasting of their talents, nor may they advertise as having secret methods of treatment.

PREVENTING TUBERCULOSIS AT ITS FOUNTAINHEAD

Childhood, says A. W. Jones,[1] is the period of life in which the greatest susceptibility to tuberculosis infection exists, and adult tuberculosis is generally an after-result of childhood infection. The true field of prevention in antituberculosis work, then, is obvious. Jones restates the opinion that the tuberculous infection of the individual does not occur by direct entrance into the blood through the air cells of the lungs, but always through the glandular system, either in the respiratory or alimentary tracts, and that in the vast majority of cases it occurs in infancy. If the infection occurs before the second year the patient promptly dies: if after the age of 2 the disease is more likely to become latent, and from this age up to puberty this tendency to latency increases with each year of age. What is called early tuberculosis in adults is generally the second stage or the beginning of the third, and at best it can be spoken of only as the early stage of pulmonary tuberculosis. Jones says that it should be the business of preventive medicine to forestall this stage. Logically, the upbuilding of the individual at the time of the true incipiency of the disease will give to Nature the greatest amount of assistance at the most applicable moment in the life of the disease. And as childhood is also the constructive period of the individual, the time when the tendency to normal cell-growth is at its highest, we may naturally expect the greatest returns for efforts expended, and the greatest percentage of absolute recoveries possible. Jones designates the public school as the "unworked field of preventive medicine" wherein most effective work in this line can be done. While this cannot be said to be a wholly "unworked" field—witness the active movement for the betterment of school hygiene, medical inspection, the establishment of open-air schools, etc.—yet it is no doubt a vulnerable point of attack in the eradication of this disease.

THE KISS OF DEATH

A better understanding of the sources and methods of transmission of infectious diseases has resulted in many changes in matters of personal and public hygiene. Mediate and immediate personal contact is found to account for many of such infections, and this has resulted in such measures as the abolishment of the public drinking-cup and of the use of slates by school children, greater care in the disposal of the sputum of the tuberculous, and the sterilization of bacillus-carriers. The transmission of such infections as diphtheria, syphilis and tuberculosis, have in some cases undoubtedly been due to methods used in certain industrial occupations, such as the use of blowpipes by jewelers and glass-blowers, and perhaps the sticking of the wrappers of cigars by the saliva in the cigar industry. Among these "relics of a more careless age" is a custom in the cotton factories necessitated by the old-fashioned weave-room shuttles, grimly called the "kiss of death." This shuttle, which requires the sucking of the thread through a hole by the operative, has doubtless been responsible for the carrying of tuberculosis and other infections throughout all the generations in which it has been used, and is, indeed, a veritable "kiss of death." A shuttle has been devised which does away with this lip contact, and a bill has been introduced into the Massachusetts legislature to compel mill-owners to abandon the use of the old shuttle. Popular knowledge of infectious and contagious diseases and the way they are carried should be all that is necessary to abolish at once all such contrivances. Unfortunately, it is sometimes easier for a camel to go through the eye of a needle than for a "practical" man to recognize facts, the corollary to which, if acted on, might possibly shave profits more or less; and this bias is illustrated by the fact that there is no market in the United States for certain life-saving devices which are manufactured here. These devices are sold only abroad—where the law compels their use. It is a sad commentary on our civilization and appreciation of what is humane that any legislation should be needed to compel the employers of labor to eradicate from the industries all forms of the "kiss of death."

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[1] Jones, A. W.: An Unworked Field of Preventive Medicine, Jour. Minn. State Med. Assn., Oct. 1, 1910.

THE SEPTIC TANK

A particularly clear and authoritative statement of the modern view of the septic tank will be found in an editorial by Rudolph Hering in the November, 1910, number of the *American Journal of Public Hygiene*. The reasons for the decline in the favor with which the septic tank was once regarded are stated under six heads. A few sentences will bear quoting: "The great reduction in the amount of sludge to be handled as promised by the advocates of the septic tank has not been realized." "A reduction of bulk by drainage is very much greater than a reduction by septic action, the latter referring only to solid matter." "The odor about a septic tank is frequently offensive." "It was found that the septic effluent was less fit for subsequent oxidation of the sewage by biologic filters or bacteria beds than fresh settled sewage." "The sludge which has to be removed from septic tanks is often foul when taken out and its removal is connected with more or less of a nuisance." The article cited is not confined to a discussion of the septic tank, but deals with other methods of sewage disposal in the light of the most recent investigations along both practical and theoretical lines.

THE DECREASING GERMAN BIRTH-RATE

The race-suicide question is beginning to come to the front in Germany. Last year's birth-rate was only thirty-three per thousand, as against thirty-six for the decade ending with 1890, and forty-two in 1875. It is highly probable that this decrease will continue. The phenomenon is the natural consequence of increasing thrift and prosperity and changed social conditions. It is asserted that the higher standard of living tends to produce physiologic conditions which in themselves decrease fertility. Economic and social reasons, however, including the tendency to delay marriage under modern conditions of life, are ample to account for the gradual decrease in highly civilized countries at the present time. The birth-rate does not decrease rapidly among the members of an improvident proletariat.

Medical News

COLORADO

Trades Union Hospital.—The Denver Union Hospital Association has opened headquarters and is raising funds for the erection of a hospital especially for members of allied trades unions.

Hospital Saturday and Sunday.—The Hospital Saturday and Sunday Association, Denver, collected on Tag Day $6,080. During last year the association gave hospital care to 266 persons.

Personal.—Dr. Elizabeth Cassidy, Denver, has been elected a member of the Board of Commissioners of Denver County. ——Dr. Leonard Freeman was operated on for appendicitis and is reported as doing well.

State Society Meeting.—The Colorado Society for the Prevention and Control of Tuberculosis, at its annual meeting in January, reelected Dr. G. Walker Holden as president and S. Poulterer Morris as executive secretary.

Home for Mental Defectives.—The State Home and Training School for Mental Defectives now under construction at Arvada will be ready for occupancy in the spring. Its completion will remove from county institutions all public charges of this class.

House-Warming.—On January 2 a house-warming was given by Drs. Melville Black, Leonard Freeman, Josiah N. Hall, Samuel D. Hopkins, Robert Levy and Charles B. Lyman at their office on the fourth floor of the Metropolitan building. The good fellowship manifested on this occasion was such that it was felt to be a great success.

Gift to Consumptive Hospital.—Mr. Jacob August, Cleveland, has given $25,000 to the National Jewish Hospital for Consumptives, Denver, the interest to be used for the maintenance of the trades school.——Mrs. Lewis Schoenberg, Cleveland, has provided $25,000 for the purchase of a farm near Denver to provide supplies for the inmates of the hospital.

Denver Deaths in 1910.—Dr. W. H. Sharpley, Commissioner of Health of Denver, reports that during the year, 3,518 deaths occurred, of which 1,224 were from general diseases; 300 from nervous diseases; 380 from circulatory diseases; 412 from respiratory diseases; 325 from digestive diseases; 262 from genito-urinary diseases and 238 from external causes. Tuberculosis in all forms caused 690 deaths and pneumonia 328 deaths.

Sanitarium for Colored.—The National Lincoln-Douglas Sanatorium and Consumptive Hospital Association has begun a series of meetings to promote interest in an institution for the care of colored individuals suffering from tuberculosis.——James Polk Taylor, formerly a slave, and his wife have donated 480 acres of land at Calhan, forty miles east of Colorado Springs to the Charles Sumner Tuberculosis Association, as a site for a national tuberculosis sanatorium for negroes of the United States.

ILLINOIS

Money for Medical School.—The budget of the University of Illinois, which amounts to $3,551,000 asked to be appropriated by the present legislature, includes an item of $200,000 for the maintenance of the college of medicine.

Tuberculosis Dispensary Open.—The new free dispensary organized by the Springfield Tuberculosis Association, was formally opened, January 23. The dispensary will be open from 10 to 11 on Monday, Wednesday and Friday mornings, and at the same hour on the first and third Saturdays of each month, children will be examined and treated.

Personal.—Dr. Joseph M. Wallace, Aledo, is reported to be seriously ill with pneumonia.——Dr. Franklin N. Odbert, Indianola, is ill at his home with influenza.——Dr. Walter F. Wessels, Mendon, sailed for Germany, February 1.——Dr. Green E. Hill, Girard, is ill at his home with influenza.——Dr. Lemuel L. Silverthorn, Charleston, who has been seriously ill is reported to be improving.

Elections.—At the annual meeting of the Winnebago County Medical Society, held in Rockford, January 10, Dr. William H. Fitch was elected president; Dr. Allen C. Eakin, vice-president; Dr. Frank W. Hanford, secretary-treasurer; Dr. William E. Park, censor; and Dr. Charles E. Crawford, delegate to the state society, all of Rockford.——At the annual meeting of Sangamon County Medical Association, held in Springfield, January 9, Dr. George F. Stericker was elected president and delegate to the state society; Dr. William A. Young, vice-president and alternate delegate to the state society; and Dr. Otto H. Deichmann, secretary-treasurer, all of Springfield.

Chicago

Personal.—Dr. Thomas O'Malley has been appointed a member of the Chicago school board.——Dr. Earl J. Brown was attacked near his home, January 23, beaten into insensibility, and robbed of money and jewelry.

New Hospitals.—The Missionary Sisters of the Sacred Heart of Jesus are erecting a new hospital to be known as the Columbia Extension Hospital for the free use of the deserving poor, regardless of race, creed or color. The institution is located at Lytle and Polk Streets and will be dedicated, it is expected, in April or May.——An ordinance was passed, January 30, providing for the purchase of land at North Fortieth and Bryn Mawr Avenues on which to construct a tuberculosis hospital.

INDIANA

Public Drinking Cups.—Dr. Charles S. Woods, secretary of the Indianapolis Board of Health is preparing an ordinance prohibiting the use of public drinking cups.

Expelled from Medical Society.—The LaPorte County Medical Society is said to have expelled Dr. Johann H. William Meyer, charged with the performance of criminal abortion.

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[1] November, 1910.

Anniversaries.—On January 17, Dr. William H. Wishard, Indianapolis, celebrated his ninety-fifth birthday.——Dr. General W. H. Kemper, Muncie, celebrated on Dec. 31, 1910, the fiftieth anniversary of his entrance into the practice of medicine.

State Board Election.—The Indiana State Board of Medical Registration and Examination, at its meeting held in Indianapolis, elected the following officers: president, Dr. William A. Spurgeon, Muncie (reelected); vice-president, Dr. James M. Dinnen, Fort Wayne; secretary, Dr. William T. Gott, Indianapolis (reelected, and treasurer, Dr. Moses S. Canfield, Frankfort.

License Revoked.—The State Board of Medical Registration and Examination at its meeting, January 18, is said to have revoked the license to practice medicine of Dr. Charles D. Pettigrew, Logansport, for alleged fraudulent advertising, the complaint being made by Dr. Rodney E. Troutman, Logansport, president of the Cass County Medical Society. Dr. Pettigrew has taken an appeal from the action of the board.

Personal.—Dr. Thomas L. Taylor, Indianapolis, has been appointed physician to the Indiana School for Feeble-Minded Youths, Fort Wayne.——Dr. William F. Houk, Crown Point, Deputy Coroner of Lake County, was seriously injured, January 14, in an automobile explosion, and it is feared may lose his sight.——Dr. Harry B. Leavitt, Worthington, has been elected superintendent and Dr. W. A. Gekler, Indianapolis, assistant superintendent of the State Tuberculosis Hospital, Rockville.——Dr. George E. Clements, Crawfordsville, is spending the winter in Berlin and Vienna.——Dr. Walter J. Mitchell, North Vernon, has been elected clerk of the circuit court of Jennings County.——Dr. George Murphy, Leo, is reported to be critically ill in St. Joseph's Hospital, Fort Wayne.——Dr. Frank M. Morrison has been reelected president of the Board of School Directors of Indianapolis.——Dr. Richard B. Wetherill, Lafayette, sustained serious injuries in an automobile accident, January 9.——Dr. Victor V. Cameron, West Marion, has succeeded Dr. George R. Daniels as coroner of Grant County.——Dr. Walter H. Peters, Lafayette, recently underwent operation at Rochester, Minn., and is reported to be convalescent.——Dr. Kent K. Wheelock, Fort Wayne, has returned from abroad.

IOWA

Upholds State Board.—The attorney-general ruled, January 3, in refusing Dr. J. W. Crofford, Decature, a renewal of his license to practice medicine in the state, that the State Board of Health had acted rightly in refusing to cancel the revocation of Dr. Crofford's license.

Acquitted.—Dr. Arnold Jolly, Hamburg, accused of causing the death of Mrs. Fanny Noblett, May 13, 1910, by a criminal operation, was declared not guilty by the jury, January 14. The defendant was returned to the county jail, however, to answer to a rather similar indictment.

Staff for Children's Home.—At the annual meeting of the medical staff of the Iowa Children's Home, Des Moines, January 5, the following officers were elected: president, Dr. James W. Cokenower; secretary, Dr. Bernard J. Callahan; oculists, Drs. William W. Pearson and Charles M. Werts; surgeon, Dr. James W. Osborn; dermatologist, Dr. Edward R. Posner; neurologist, Dr. Francis A. Ely and members of the attending staff, Drs. Nellie S. Noble, Joseph A. Goodrich, Bernard J. Callahan, Robert L. Parker, L. M. Nourse and R. G. Davis.

Personal.—Dr. Francis E. McGlone, Mason City, was seriously injured by falling on an icy walk near that town, January 10.——Dr. and Mrs. George H. Stanger and daughter, Boone, sailed for Europe, January 25.——Dr. Frank H. Hanson, Magnolia, was seriously injured in a runaway accident, January 4.——A recent fire in Marengo destroyed the office fixtures, instruments and books of Dr. Edgar B. Henderson. ——By a fire in Albia, Dr. Taylor R. Jackson sustained a loss of $1,000.——Dr. Irenarch S. Buzzard, Russell, has returned from abroad.

KENTUCKY

Election.—The Nicholas County Medical Society, at its meeting in Carlisle, elected Dr. Benjamin F. Reynolds, president; Dr. Malcolm Dills, vice-president and Dr. John M. Wells, secretary-treasurer, all of Carlisle.

Tenement House Law.—The first case to be tried in the ordinance court under the new tenement-house law will come up February 2. The health officer has sworn out a warrant against the owner of a tenement house, stating that there is no light on the stairway; that the house is without water on the different floors and that garbage cans are not provided.

Personal.—Dr. Stephen Sharp has been appointed bacteriologist of the Covington Health Department, vice Dr. John Batte, resigned.——Dr. Thomas J. Slaton, Greenville, has been appointed health officer of Muhlenberg County.——Dr. William A. Wright, Corn Creek, has been appointed health officer of Trimble County, vice Dr. Charles P. Harwood, Milton, resigned.——Dr. Clarence P. Burnett, Paducah, has been appointed city health officer and registrar of Paducah and registrar of McCracken County, vice Dr. Shandy Z. Holland, resigned on account of ill health.

MARYLAND

Election.—At the meeting of the Cumberland Academy of Medicine, January 18, Dr. James T. Johnson was elected president; Dr. Edwin B. Claybrook, vice-president, and Dr. John R. Littlefield, secretary-treasurer.

State Hospital Report.—During the fiscal year ended Nov. 1, 1910, 672 patients were treated in the Maryland Hospital for the Insane near Catonsville. Of these, twenty-seven were discharged, eighteen of which were recovered, five improved and four unimproved. During the year there were forty-seven deaths.

Personal.—Dr. McPherson Crichton, Washington, D. C., was acquitted in the circuit court, Rockville, Md., January 23, on the charge of manslaughter, as a result of an automobile accident in August last. So weak a case was made out that the judge did not allow the case to go to the jury.——Dr. Thomas Z. Offutt, Granite, is reported to be seriously ill.——Dr. George Wells, for several years chief of the staff of the Annapolis Emergency Hospital, has resigned and Dr. James J. Murphy has been appointed in his stead. Dr. W. S. Welch has been appointed secretary of the staff and Drs. J. Oliver Purvis, Louis B. Henkel and James J. Murphy, have been made the executive committee.

Baltimore

Small-Pox on Steamer.—The steamship *Main*, from Bremen via New York, was detained at Quarantine, January 23, on account of the existence of a case of small-pox in one of the passengers.

Enlargement of Hospital.—Plans are being made for the addition of another story to the Maryland General Hospital, which will give accommodation for seventy-five additional patients and will add to the institution, two operating rooms and a sun-parlor.

Personal.—Dr. Hugh H. Young gave a reception, January 28, to Seymour Thomas, a portrait painter of Paris, when a portrait of Dr. William Osler, by the latter, was exhibited.——Dr. Thomas Harris Cannon is reported to be critically ill with uremia at the University Hospital.

Gift to Crippled Children's School.—Mrs. William Painter has added $10,000 to her donation to the Crippled Children's School near Catonsville, making her entire gift $30,000. This will enable the institution to remain open the year round, instead of being closed in the winter as at present.

Dental Dispensary for Children.—On October 1, Mrs. Henry Barton Jacobs will open a dental dispensary exclusively for children at the Robert Garrett Hospital for Children. This is said to be the first dental dispensary to be established in the country and it will be under the charge of Dr. D. Edward Duff.

MASSACHUSETTS

New Site for Hospital.—The trustees of the Foxboro State Hospital for Inebriates have chosen a site for the new institution in the town of Norfolk, containing 640 acres, and the governor and executive committee have approved this choice.

Society Centennial.—The Boylston Medical Society celebrated its centenary by a dinner at the Harvard Union, January 6. Dr. John L. Morse, the president, was toastmaster and the speakers included many prominent professional men of New England.

Fined for Failure to Report.—Dr. George Reinherz, East Boston, and Dr. Elmer L. Brine, Boston, are said each to have been fined $50 for failure to report cases of ophthalmia neonatorum within six hours of birth of children so afflicted. In the latter case, the sentence was suspended and the defendant placed on probation.

Mental Disease Clearing House.—Massachusetts has begun at a cost of $500,000 the erection of a State Psychopathic Hospital in Boston which is expected to be in full operation in about a year. The institution is to be the receiving, classifying and distributing center for patients ill with mental diseases. The hospital expects to keep about one hundred patients, regularly in the wards, the other 1,400, which it expects to receive, being sent elsewhere for treatment suited to the separate needs of the individual.

Personal.—Dr. Osmyn Baker has been reelected city physician of Northampton.——Dr. George G. Sears, Boston, is recuperating in Los Angeles after a severe illness.——Dr. Thomas F. Leen has been elected a member of the school committee of Boston.——Dr. Thomas F. Harrington has been appointed physician in chief of St. Elizabeth's Hospital, Boston; Dr. Michael J. Cronin, assistant; Dr. William A. Brooks, head of the surgical staff, and Dr. Edward A. Supple, assistant. A new site has been purchased for the institution in Brighton.

Money to Hospitals.—A bequest of $25,000 to the Holyoke City Hospital is contained in the will of the late William Whiting.——Mrs. Sarah H. Swan has in her will bequeathed $5,000 to the Cambridge Hospital.

MICHIGAN

Free Beds for Students.—Dr. Frank W. Smithies has placed two beds in his private hospital, Ann Arbor, at the disposal of needy students of the University of Michigan. The only restriction is that patients with contagious diseases will not be admitted.

Health Officer Fined.—Dr. Myron A. Patterson, health officer of Flint, is said to have been convicted, January 21, of "wilfully and maliciously exposing Under Sheriff Frank Green to small-pox," during the epidemic in November, and to have been sentenced to a fine of $25 with the alternative of imprisonment in jail. Dr. Patterson resigned as city health officer, January 23, and the resignation was accepted to take effect January 30.

Personal.—Dr. G. Carl Huber, professor of Histology and embryology in the University of Michigan, Ann Arbor, resigned as secretary of the Department of Medicine, January 19, to accept the headship of the new department of embryology for the Wistar Institute of Anatomy, Philadelphia. Dr. Charles W. Edmunds, professor of therapeutics and materia medica, has succeeded Dr. Huber as secretary of the department.——Dr. John F. Byington, Battle Creek, who has been seriously ill with erysipelas, is reported to be improving.——Dr. Bion Arnold, Denton, while crossing the car tracks in the village, January 22, was struck by a car and seriously injured.——Dr. Elmer L. Eggleston, Battle Creek, has returned from Europe.——Dr. Burt R. Shurly has been elected vice-president of the Detroit Tuberculosis Sanatorium and Drs. Charles G. Jennings, Burt R. Shurly and Herbert M. Rich have been elected members of the board of directors.

MISSOURI

Suit Dismissed.—By agreement, the suit of the state, at the instance of Dr. William F. Kuhn, against the board of managers of State Hospital No. 2, St. Joseph, for $250 and his living expenses as superintendent of the hospital was dismissed, January 17, at the defendant's cost.

Personal.—Dr. William G. Cowan, formerly of Sedalia, is reported to be critically ill with pneumonia at his home in Carlsbad, New Mexico.——Dr. John Ashley, Bloomfield, has resigned as a member of the State Board of Health.——Dr. Milton P. Overholser, Harrisonville, has been elected superintendent of State Hospital No. 3, Nevada.

Conviction for Abortion.—In the case of Dr. G. Emil Dargatz, Kansas City, charged with the performance of a criminal operation, which caused the death of Mrs. Marion Hawkins, last September, the jury in the criminal court is said to have found the defendant guilty and a sentence of imprisonment in the county jail and a fine of $50 was imposed, January 13.

NEW YORK

To Have Women Interns.—Women have been substituted for men in the Hempstead Hospital, of which Mrs. O. H. P. Belmont is president.

Election.—The Fulton Physicians and Surgeons' Association, at its annual meeting, January 18, elected the following officers: president, Dr. Edward M. Anderson; vice-president, Dr. Harriet M. Doane; secretary-treasurer, Dr. Sylvester D. Keller, and censors, Drs. Frank E. Fox, Willis M. Wells and Harvey J. Trepening.

Personal.—Charles F. Wheelock, who was formerly chief of the examinations division of the state Department of Education, Albany, has been promoted to the position of second assistant commissioner of education. The new chief of the examinations division is Mr. Harlan H. Horner, to whom all requests for information regarding state license examinations should be addressed.——Dr. Thomas W. Salmon, passed assistant surgeon, U. S. P. H. and M.-H. Service, has been appointed a member of the board of alienists by the New York State Commission in Lunacy.

New York City

Harvey Society Lecture.—The fifth lecture in the Harvey Society course, by Dr. Thomas B. Osborne of the Connecticut State Agricultural Experiment Station, February 4, is on "Chemistry of the Proteins."

Personal.—Dr. Joseph L. Hicks, Flushing, L. I., has been appointed physician emeritus to the Flushing hospital. Dr. Hicks is about to retire from active practice.——Dr. Elizabeth A. Bruyn, Brooklyn, has been appointed ambulance surgeon to the Williamsburg hospital.

Sanatorium for Hebrew Children.—At the annual meeting of the officers and directors of this institution it was reported that 3,680 mothers and children were cared for during the last summer and 11,476 mothers and children were taken on boat and railroad trips to summer resorts. Although so many were treated during the summer there were only six deaths in the institution.

Verdict Against Physicians.—A verdict was returned, January 10, against Dr. George T. Steward, formerly superintendent of the Metropolitan Sanitarium, Blackwell's Island, and Dr. Ralph W. Thompson, for performing an autopsy without authority. The plaintiff admitted signing a permit for the autopsy, but said that the physicians had told her that this was necessary before she could remove her sister's body.

Bequests.—The appraisal of the estate of John Stewart Kennedy, who died Oct. 31, 1909, shows the amount to be distributed as $65,659,000 of which $2,858,000 is given to the Presbyterian Hospital.——William F. Wardwell, formerly president of the New York State Red Cross Society, in his will bequeaths $100,000 to the New York Red Cross Hospital, contingent on the death of his widow, and on condition that the hospital use no alcohol in any form in the treatment of its patients.

NORTH CAROLINA

Laboratory for Sanatorium.—The Charlotte Sanatorium has obtained a permit for the erection of a clinical and pathologic laboratory.

Personal.—Dr. Joseph Graham, Durham, announces his retirement from general practice and his intention to devote himself entirely to surgery.——Dr. Edwin G. Moore, Elm City, has resigned as director of the State Hospital for Colored Insane, Goldsboro, and has been appointed a director of the State Hospital for Insane, Raleigh.——Dr. Thomas A. Mann, Durham, was seriously injured by coming in contact with a barbwire fence, January 16.

Hookworm.—Dr. John A. Farrell, assistant secretary of the State Board of Health in charge of the hookworm work in the state, has issued a summary of his work up to January, which shows that 14,000 cases of the disease have been treated; approximately 50,000 people have been informed in public lectures of the symptoms and the effect of hookworm infection; 34,000 school children have been visited and inspected and reports have been received from 838 practitioners relative to the existence of hookworm in their practice. Of 5,552 microscopic examinations of human feces, 42 per cent. were found to be infected with hookworm.

NORTH DAKOTA

District Society Meeting.—At the annual meeting of the Northwestern District Medical Society, held in Minot, January 21, the following officers were elected: president, Dr. Archibald D. McCannel, Minot; secretary-treasurer, Dr. G. Roy Ringo, Minot; censor, Dr. Joseph T. Newlove, Minot; delegates to the state society, the president, and Dr. E. W. Blatherwick, Drake, and alternates, Drs. Andrew Carr, Minot, and F. A. Brugman, Drake.

OHIO

Personal.—Dr. Lewis Kahn has been reappointed a member of the health board of Columbus.——Dr. Thomas E. Craig, Sabina, has retired from practice and gone to Florida to recuperate.

Tablet Unveiled.—On the occasion of the semi-annual clinic at St. Vincent's Hospital, Toledo, January 19, the memorial tablet to Dr. James Donnelly given by the medical staff of the hospital was unveiled.

Failure to Report Diseases.—Nine physicians of Cleveland have been summoned to appear before the health board to explain their failure to report cases of communicable diseases. In most instances, the disease not reported was pneumonia.

Cincinnati

Clinical Society Meeting.—The Clinical Society of the Cincinnati Hospital at its first meeting, January 19, elected Dr. Frederick Forchheimer, president, and Dr. Simon P. Kramer, secretary-treasurer.

Personal.—Dr. Christian R. Holmes has been appointed a member of the commission to build the new city hospital.——Dr. August C. Busch, Hyde Park, has been elected state medical director of the Catholic Knights of Ohio.——Dr. Asa B. Isham has been elected president; Dr. Byron L. Stanton, vice-president; and Charles L. Bonifield, secretary of the board of medical directors of the Cincinnati Hospital.

PENNSYLVANIA

Philadelphia

Tuberculosis Talks in Public Schools.—The Board of Education has arranged for a series of lectures, through the generosity of the Pennsylvania Society for the Prevention of Tuberculosis, to be given in several elementary schools. The lectures will deal with personal and civil hygienic measures necessary in order to eradicate the disease.

Open-Air Schools Postponed.—Plans for the establishment of the open-air schools in Philadelphia for children, affected with tuberculosis, have been given up for the time, because of lack of funds. However, physicians are making an inspection of the public school children to ascertain the number affected with tuberculosis in any stage, as well as anemic and undernourished children, who would be fit candidates for such schools.

Personal.—Samuel Bell, Jr., was elected a trustee of the Medico-Chirurgical College, January 16.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, was the guest of honor at the annual smoker of the alumni of Scranton December 27.——Dr. J. Chalmers DaCosta has been appointed visiting surgeon to St. Joseph's Hospital.——Dr. Alfred Stengel has resigned as visiting physician of the Philadelphia General Hospital, and Dr. William Pepper has been appointed his successor.——Dr. Samuel G. Dixon has been elected a trustee of the University of Pennsylvania.

Blockley Short of Funds.—When Councils' Finance Committee appropriated $75,000 to the Department of Health and Charities for the labor roll at the Philadelphia General Hospital and Almshouse, it provided nothing for material, and this will necessitate laying off about 75 employees. The same condition existed last year but later Councils appropriated $10,000 for materials. The sum of $150,000 was asked for the construction of a new boiler house and boilers, but only $15,000 was given. Councils did give the department money for the installation of new automatic fire alarm system for the general hospital.

UTAH

Official Organ for State Association.—The Utah State Medical Association has completed arrangements with *Northwest Medicine* by which the latter—instead of the *Denver Medical Times*—will serve as its official journal for the ensuing year. The association, therefore, will not have a separate official organ as The Journal was at first informed.

WASHINGTON

Elections.—King County Medical Society, at its annual meeting, January 2, elected the following officers: president, Dr. George B. McCullough; vice-president, Dr. Harrison A. Wright; secretary-treasurer, Dr. Herbert E. Coe, and delegates to the state association, Drs. Frank M. Carroll, George B. McCullough; George N. McLoughlin, Frank T. Maxson, Richard J. O'Shea, Richard W. Perry and C. Benson Wood, all of Seattle.——Whatcom County Medical Society, at its annual meeting in Bellingham, elected the following officers: Dr. Fred V. Sh [illegible] ident; Drs. Frank A. Wheaton, Bellinghar [illegible] Sumas, and Charles S. Hood, Ferndale, [illegible] Ernest D. Hatch, Bellingham, secretary; Dr. Edward C. Ruge, Bellingham, treasurer, and Drs. Lemon R. Markley and Hays A. Compton, Bellingham, delegates to the state asociation.

WISCONSIN

Personal.—Dr. Edward C. Schnittker, Milwaukee, sentenced to imprisonment for six years and revocation of license in February, 1908, on account of the performance of a criminal abortion, has been on parole for a year past and was unconditionally pardoned by the governor, January 12.

The Hospital Question in Milwaukee.—The Milwaukee County Medical Society disapproves of the proposed purchase of the Schandein house as a maternity hospital on account of the impossibility of remodeling the building into a modern hospital. An isolation hospital for children suffering from contagious diseases is considered the great need of the city, and Pabst Park has been suggested as a site for this institution.

Medicine Sample Kills.—The jury in the case of Martin O'Donnell, Oconto, versus the M. W. Marshall Medicine Company, Fond-du-Lac, is said to have returned a verdict for $666 for the plaintiff, and also to have found that a relative of the defendant had been guilty of contributory negligence. An agent of the defendant company had distributed samples of a rheumatism medicine in Oconto, and a small daughter of the plaintiff fed an infant the contents of the bottle left at the house by the distributor, resulting in the death of the baby.

Society Meetings.—The Seventh District Medical Association, at its annual meeting in LaCrosse, December 22 and 23, elected Dr. Eugene H. Townsend, New Lisbon, president; Dr. Edward F. Christian, LaCrosse, vice-president; Dr. Charles H. Marquardt, LaCrosse, secretary.——At the annual meeting of the Eau Claire District Medical Society, Dr. Ralph R. Chase, Eau Claire, was elected president, and Dr. Everett L. Mason, Eau Claire, was reelected secretary-treasurer.——Rock County Medical Society, at its meeting in Beloit, December 27, elected Dr. George W. Fifield, Janesville, president; Dr. William J. Allen, Beloit, vice-president; Dr. Eduards B. Brown, Beloit, secretary-treasurer, and Dr. Frank W. Van Kirk, Janesville, censor.——Twin City Medical Society, at its annual meeting in Menasha, January 3, elected the following officers: president, Dr. Samuel G. Todd, Neenah; vice-president, Dr. Frank M. Corry, Menasha, and secretary-treasurer, Dr. Samuel D. Greenwood, Neenah.——At the annual meeting of Douglas County Medical Society, held in Superior, Dr. Fred G. Johnson, Iron River, was elected president; Dr. Thomas J. O'Leary, Superior, vice-president; Dr. Royal K. Lohmiller, Superior, secretary-treasurer, and Dr. Charles H. Mason, Superior, censor.

FOREIGN NEWS

The Indian Ambulance Gazette.—With the beginning of the new year the Indian branch of the St. John Ambulance Association began the publication of an official organ named the *Indian Ambulance Gazette*. This association, under the emblem of the white cross, has organizations throughout the world for rendering public first aid in time of pestilence, great disasters or war, similar to the organization of the Red Cross. The Indian branch was organized in 1887 and has grown encouragingly so that an official organ became necessary in carrying out its purposes. The gazette will be published quarterly. The first number contains a considerable fund of information, historical and otherwise, as well as the late news of the organization in India and other parts of the world.

Plague in the Far East.—Cabled news in the daily papers indicates that the plague situation in China has become no worse during the past week. The state department is said to have cabled the American minister at Pekin to ask medical missionaries to volunteer in response to the invitation of China to the leading powers of the world to send commissions of medical experts to study the plague and help combat it. The department is also to take up the question with the navy and treasury departments with a view of obtaining the services of naval surgeons and members of the Public Health and Marine-Hospital Service. The Pacific coast of the United States is being vigilantly guarded and the Japanese are also on the alert. The work of fighting the plague is said to have fallen almost entirely on the foreign medical missionaries in China and they are bravely grappling with the task. In the two northeastern provinces of China, where Pekin is situated, there are said to be thirty-seven hospitals and thirty-five dispensaries in charge of foreign medical missionaries; fifty are Americans, including twenty-four women. The two districts have a long and diversified coast frontage and are bounded on the northeast by Manchuria where the plague is raging. The two districts extend about 700 miles north and south and about 500 miles east and west, an area nearly four times that of New York state, with a population six times that of the state. The hope of a racial immunity to the plague is proving unfounded; two European physicians had died at Harbin from pneumonic plague, the type prevailing there now, and one Japanese physician by January 28.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 21, 1911.

A Clean Milk Campaign

The National League for Physical Education and Improvement has started a "clean milk campaign." Recognizing that few matters are of greater importance in promoting the health of the nation than a pure milk-supply, the association has determined to make an effort to impress on farmers, milk retailers and consumers alike the necessity for certain precautions with regard to the distribution and consumption of milk. A series of leaflets addressed to each of these classes has been adopted for circulation by a considerable number of public bodies.

Sir Francis Galton

Sir Francis Galton, F.R.S., died at Haslemere, Surrey, January 17, in his 89th year, from bronchitis complicated by congestion of the lungs. He was born in Warwickshire and was a cousin of the author of the "Origin of Species." While second only to Charles Darwin in eminence as a biologist he surpassed him in versatility. Traveler, meteorologist and anthropologist, he made his mark as a writer on all these subjects. On his father's side he was of ancient Quaker stock. By the wishes of his parents he studied medicine but at the age of 22 he found himself, on the death of his father, with a fortune sufficient to render him independent and began traveling. He went through Egypt and explored a large part of Africa for which he was rewarded with the gold medal of the Geographical Society. In 1855 he wrote "The Art of Travel, or Shifts and Contrivances Available in Wild Countries," which has been a *vade-mecum* to travellers ever since. In 1861 he turned his attention to meteorology and described a method of recording the state of the weather over a wide area by means of charts, and this method has been used by meteorologists ever since. In 1862, he introduced the term anticyclone which figures so frequently in modern meteorologic reports.

His name, however, is best known in connection with anthropology. The distinguishing feature of his work was the use of statistical methods. In 1869, he published "Heredity and Genius" in which he aimed to show that genius was mainly a matter of ancestry. In 1874, appeared "English Men of Science: Their Nature and Nurture" which was suggested by de Candolle's book analyzing the salient events in the history of 200 men who had lived in the preceding two centuries. In the next year he drew up two sets of forms which he hoped would lay the foundation of the practice of maintaining trustworthy life histories that would be of medical service in after-life to the person keeping them, and would promote the registration of much information at present wasted, and assist future inquiries into the problems of heredity. One of these, the "Record of Family Faculties," contained tabular forms to facilitate the collection of facts which are important to a family from a hereditary point of view and which may be used to forecast the mental and bodily development of future generations. The other, a "Life History Album," afforded a continuous register of the principal biologic facts of its owner. In 1904, appeared a study of the distribution of successes and of natural ability among the kinsfolk of fellows of the Royal Society. In 1901, he initiated the science which he termed "eugenics." He applied his studies in heredity to a discussion of the possibility of improving the human race under existing conditions of law and sentiment. He aimed at putting the problem of race improvement on a scientific basis, and showed statistically that economy of cost and labor in improving the race must depend on attention to parentage. He also applied himself to many other statistical and anthropologic studies. For example, he carried out a statistical inquiry into the efficacy of prayer and came to a decidedly negative conclusion. The question of visions also engaged his attention. He concluded that, however obscure and ill-explained they may be, they belong for the most part if not altogether to "an order of phenomena which no one dreams in other cases of calling supernatural." He further suggested that in view of the vast multiplicity of mental operations in simultaneous action, much of what passes for supernatural is merely the result of one part of the mind being contemplated by another part, as if it were that of another person. His system of composite portraits, which is a process of pictorial statistics which yields an average analogous to that of arithmetic, is now well known. Thus, if the portraits of a number, say of consumptives or criminals of a particular kind are optically superimposed, individual peculiarities are eliminated and the result may be looked on as the type of the class.

To the study of finger prints with which his name is so closely associated his attention was drawn while preparing a lecture on Bertillon's anthropometric method in 1888. He realized the importance of the papillary ridges as anthropologic data. He analyzed the forms and patterns of the ridges, discussing their evidential value by the laws of probability, and investigated their significance (which was far less than he expected) as indications of race and temperament. In 1895, appeared "Finger-Print Directories" in which he showed how finger prints might be used to identify a person. This method, combined with Bertillon's primary measurements, has been adopted for criminals by many governments.

A Doctor's Heroism in a Railway Accident

Details have reached England of a disastrous railway accident at Gaika's Loop, Cape Province, South Africa, in which twenty-three persons were killed. A crowded holiday train, the passengers being chiefly women and children, was returning from East London. The train was traversing a curved embankment about 15 feet high across a gully, when six coaches toppled over to the bottom of the embankment, the couplings snapping. The accident occurred in inky darkness in a wilderness miles from help. Rescuers worked with hand lamps from the train and a bonfire made of the débris of the wrecked coaches. One of the passengers was Dr. Robertson of Cathcart, who had three ribs broken. Despite this he was carried from place to place directing the treatment of the injured until he fainted from pain and exhaustion. The survivors declare that he deserves the Victoria Cross. There was another physician in the train but he was pinned down and helpless for three hours.

The Abuse of Hospitals by Out-Patients

The perennial grievance of the profession that the out-patient departments of the hospitals are largely attended by patients able to pay for medical advice at last is to receive systematic investigation by hospital authorities. The King's Hospital Fund (an institution founded by the late King Edward to raise money for the hospitals, which annually dispenses hundreds of thousands of pounds and has considerable influence over hospital administration) has appointed a committee to consider and report generally regarding circumstances and conditions under which patients are admitted to the casualty and out-patient departments of hospitals, and especially the precautions taken to prevent admission of unsuitable patients. In connection with this investigation the London and County Medical Protection Society (a society of physicians for defending actions brought by unscrupulous patients for the recovery of damages for alleged malpractice, and otherwise protecting professional interests) has issued a circular requesting its members to supply evidence on the following points: (1) abuse of out-patient departments by persons able to pay for medical services; (2) attendance of patients whose ailments are unsuitable for treatment in that department; (3) difficulties experienced by suitable patients in obtaining within a reasonable time admission to the medical officer on duty in that department; (4) loss caused to physicians by the competition of out-patient departments. Full, accurate and detailed statements as to specific cases are requested and not vague generalities.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 13, 1911.

First-Aid Societies and Physicians

For some time there has been a certain ill feeling in the medical profession toward the societies for rendering first aid in emergencies. The practitioners reproached these societies with having departed from their original aims to enter into an improper competition with the medical profession. The Société française de secours aux blessés militaires has founded, in Paris, a hospital-school and a series of fifty-one dispensary schools in Paris and in the provinces. These establishments, while intended to prepare their pupils to be of service in time of war, are meanwhile doing a philanthropic work. According to the reports of the society more than 300,000 free dressings were distributed among the poor by the dispensary schools; but physicians are informed that, in reality, it is not the poor alone who receive dressings and care of all kinds and for all diseases, but any one whatever. Moreover, ladies with diplomas from such societies give electric treatments or vaccinations, make injections of physiologic serum or of sea-water, treat whitlows or give advice which may at least embarrass the physician, by directly or indirectly diminishing his patients' confidence.

Salvarsan in Ocular Syphilis

Dr. de Lapersonne, professor of clinical ophthalmology at the Faculté de médecine de Paris, on January 10, made, with Dr. A. Léri, a report on the use of salvarsan in ocular syphilis. Their results tend to show that there is no reason to magnify the harmful effects of salvarsan on the eyes. One of the principal reasons is that the mode of application in one or in several injections, at intervals, when the elimination through the kidneys is finished, is altogether different from that of the other arsenical preparations, such as atoxyl, which are used in repeated doses and which produce more or less rapid toxic retrobulbar neuritis. As for the efficacy of the drug, Drs. de Lapersonne and Léri agree that salvarsan acts very favorably and very quickly in certain simple cases of iritis or of interstitial keratitis, but that it is powerless, as might be supposed, in those forms of iridochorioiditis of which the causes are frequently multiple and of which the consequences are so serious to all parts of the eye. In recent cases of optic neuritis and of ocular paralysis, these observers are encouraged to inject large quantities in view of the remarkable but transitory amelioration that they have obtained. Since this improvement did not persist, there would have been reason to renew the injection, if the examination of the urine, made after the first injection, had shown the permeability of the kidneys. Like many other observers, Drs. Lapersonne and Léri have observed after a single injection, sometimes relapses, sometimes new outbreaks of ocular neuritis, in particular, two months or even a month after the treatment.

Death of Dr. Hocquart

Dr. Hocquart, director of the Ecole du service de santé militaire de Lyon, has just died, aged 58. Dr. Hocquart served in the campaigns of Tongking and Madagascar. He was director of the service of military hospitals at Clermont-Ferrand.

The Refilling of Medical Prescriptions

In one of my previous letters (The Journal, Aug. 7, 1909, p. 468) I mentioned the case of a certain Vallanet, a self-styled doctor who illegally practiced medicine without a diploma in Paris for more than ten years. Vallanet has recently been sentenced to pay damages of $400 (2,000 francs) each to the Syndicat des médecins de la Seine and to the Syndicat médical de Paris, both of which were civil parties to the prosecution. The pharmacist who filled his prescriptions was also prosecuted, and the question of refilling prescriptions, especially those calling for poisonous substances, came up. The pharmacist in his defense cited the common practice of refilling prescriptions. The court did not admit this line of defense. Even though there exists among pharmacists a regrettable custom of refilling old prescriptions which contain only harmless substances, according to the French law, poisonous substances can be sold for use in medicine only by pharmacists and on the prescription of a physician, which must be dated. The pharmacist was fined $100 (500 francs) for delivering poisonous substances without a new prescription. The decision is an important one, as it tends to restrain the practice of refilling prescriptions.

Reorganization of the Medical Course

A delegation from the Association corporative des étudiants en médecine called on the minister of public instruction and the director of higher education to learn the conditions of the application of the decree of Jan. 11, 1909, with regard to the reorganization of the medical course (The Journal, March 13, 1909, p. 902), to which a fifth year has now been added. The first question is whether the students of the P. C. N. (certificate of physical, chemical or natural studies required as a preliminary of medical candidates) are students in medicine. If they are, it would be difficult to demand that P. C. N. students who enter the medical schools at the time when the new régime is put in force should take five years, as this would make the new decree retroactive. If those who are now students for the P. C. N. are not yet medical students, they should take five years.

In regard to the hospital *stage*, nothing will be changed in Paris. At present there are in Paris twenty professors of various clinics, but thirty physicians or surgeons of the hospitals are authorized to receive *stagiaires* and to accept fees. The students would like to have the privilege of enrolling themselves in any of the hospital services. The director of higher education believes that this desire can scarcely be reconciled with the necessities of instruction. He says that the reform will be put in force as soon as the sum of $300,000 (1,500,000 francs) becomes available for the needed increase of the equipment of the laboratories and of the auxiliary teaching force.

Epilepsy and Constipation

On December 27, Dr. E. Doumer, professor at the Faculté de médecine de Lille, made an interesting report to the Académie des Sciences, on the rôle of constipation in the pathogenesis of epilepsy. Professor Bouchard had expressed a belief in a very close relation between epileptiform phenomena and imperfect intestinal functioning, and Doumer reported some cases in which therapeutic results seemed to confirm this belief. A child of 7, who for a year had had crises of epilepsy almost every day, suffered also from a very pronounced condition of mucomembranous enterocolitis, for which a severe régime had been carried out for six months without result. Doumer gave the little patient abdominal treatment by intense percutaneous galvanization, and after the third treatment, not only did the stools become normal, but the crises of epilepsy became less frequent and disappeared at the end of three weeks. The cure has been maintained for seven years.

The result was equally good in two other epileptics, aged 19 and 21 respectively, who also suffered from constipation. It goes without saying that the administration of bromids was stopped entirely from the time the electric treatment was begun on the three patients, Dr. Doumer confining himself to prescribing as adjuvant treatment a diet rich in vegetables and poor in meat and entirely cutting off alcohol.

The Medical Direction of Insane Asylums

At a recent session of the general council of the department of the Seine. the council was reminded that long ago it passed a resolution that each asylum should have a physician as its head, as is the case in most foreign countries. In France, by a curious anomaly, the superintendency of these asylums is considered by the ministry of the interior, which has the power of nomination, as a resource to provide for political derelicts. Hence it happens that the men appointed to these posts frequently have none of the special knowledge requisite for the work. Because of the disadvantages which arise from the division of responsibility, the necessity was conceded of uniting the medical and administrative directorship in superintendents chosen from among specially qualified physicians selected by special examination. To make this resolution effective, the general council has adopted the course of voting the salary of the administrative superintendent for only six months of 1911. Thus if a position of administrative superintendent becomes vacant, the government may, if it wishes, appoint a non-medical man, but he will not be paid, for the general council will vote the second part of the salary to the acting superintendent, but will refuse to pay the new superintendent.

Budget of the Public Charities

The budget of the Public Charities this year amounts to $16,200,000 (81,000,000 francs), a sum much greater than those of preceding years. The floods in 1910 occasioned an outlay of $348,500 (1,742,500 francs). In 1910 the increased cost of provisions was felt, the results being naturally more considerable because they affect an enormous consumption. The same condition will have to be reckoned with in 1911. The strictest economy is recommended; and it is believed that there are abuses which a more rigorous oversight would check; for instance, the consumption of gauze for dressings in 1909 was six times what it was in 1890.

Liability of a Pharmacist for Damages for Having Given Medical Advice

A cook, having fallen on her shoulder, went to a pharmacist for a lotion and the address of a physician; the pharmacist's clerk gave her the first, but persuaded her that she did not need the second. He also assured the cook's employer that there was no reason for anxiety and that the cook would be able to return to work in eight days. After eight days, however, the swelling had not diminished and a physician was sent for who diagnosed a luxation of the shoulder, necessitating a surgical operation because of the length of time that had elapsed since the accident. The cook therefore brought suit against the pharmacist, first for the reimbursement of the expenses which she had incurred, amounting to over $400, and a similar sum as damages. The court sustained her claim.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 12, 1911.

Personal

Professor Mosler, formerly director of the clinic for internal medicine in Greifswald, died January 7, aged 79. He joined the faculty of Giessen as privat-docent in 1858 and was chosen in 1864 as regular professor at Greifswald. In 1899 he retired, not voluntarily but at the request of the minister of education because it was established that Mosler's activity in investigation and in teaching did not any longer meet the necessary requirements. The scientific studies of Mosler were carried on in various fields but none of them produced any notable results. He treated the subject of diseases of the spleen in Ziemssen's "Handbok of Special Pathology," and of animal parasites in Nothnagel's "Practice."

A Woman Not Admitted as Privat-Docent

Membership in the faculty as privat-docent is not permitted to women in the states of the German federation. Heretofore there has been scarcely a request of this sort, but recently a lady, first assistant in the hygienic institute at Bonn, who had lately received the honorary title of professor from the minister of education, was sustained in her request for permission to become a lecturer by the medical faculty of that university. In spite of this, however, the department refused request.

Protection of Medical Professional Secrets in Hospitals

A short time ago attention was called in the press to the fact that the medical secret was infringed by the writing of the diagnosis on the history sheets to be found at the head of the beds in the hospital wards, inasmuch as it is easy for the relatives of the patient or strangers to find out the meaning of the Latin name of the disease and use this knowledge to the injury of the patient. Recognizing the justice of this complaint, the city authorities have ordered that in the internal department of the municipal hospitals the diagnosis shall not be written on the card. In the surgical department the disease shall be indicated with the initials of the Latin names.

Kaiser Wilhelm Society for the Advancement of Science

The society for the erection of institutions for the investigation of natural sciences announced by the Kaiser on the occasion of the centennial of the Berlin university, was founded January 11, under the name of Kaiser Wilhelm Gesellschaft zur Förderung der Wissenschaften. The endowment fund so far available amounts to $2,640,000 (11,000,000 marks). First there will be erected a chemical and a chemicophysical institute at Dahlem near Berlin for which the State of Prussia gives the land. The first institute will be under the supervision of Prof. E. Beckmann of Leipsic and the second under that of Prof. Dr. F. Haber of Carlsruhe. Both institutes will be devoted to pure research and will not serve any immediately practical purpose; their directors are under no obligation to teach. The entrance fee for every member of the new society is $5,000 (20.000 marks) and the yearly dues $250 (1,000 marks).

Workingmen's Insurance in Europe

The report just published with reference to workingmen's insurance in Europe and the present situation of legislation includes the data of the various kinds of insurance and permits a comparison of the expense entailed on trade and commerce by the social insurance in various states. *From this* review, it appears that only the small state of Luxemburg can be placed on the same plane as Germany in its workingmen's insurance against illness and accident. Invalid and old age insurance is also soon to be inaugurated in Luxemburg. Obligatory insurance for illness exists outside of Germany only in Austria-Hungary, Norway and Luxemburg. France has compulsory insurance for miners only. The rest of the states, particularly Italy, Great Britain, Belgium, Sweden, Denmark, Finland, Spain and the Netherlands have voluntary sick insurance for wage-earners and employees. In Germany, Austria-Hungary and Luxemburg the employers bear one-third and the employees two-thirds of the burden, while with voluntary insurance, the expense is principally borne by the laborers with state aid, as in Italy, France, etc.

Norway has an obligatory sick insurance for laborers and employees of all trades with a yearly wage up to $390; the expense is borne six-tenths by the laborers, two-tenths by the state, one-tenth by the municipality and one-tenth by the employers.

The data regarding accident insurance are not so complete. Compulsory insurance against accident in Germany extends to all laborers and employees with a yearly wage to $750, in industry and agriculture. In a population of 63,000,000 in 1908, there thus were 23,700,000 persons insured against accident. Besides Germany, Austria-Hungary, Italy, France, Norway, Denmark, Finland and the Netherlands have industrial and agricultural accident insurance, the income limit ranging from $150 in Finland to $750 in Luxemburg; it is $500 in Germany. As is well known, invalid and old age insurance was until lately provided only in Germany. By a law passed April 5, 1910, it was also introduced into France. It will extend to all wage-earners and employees with a yearly wage up to $600 (2,400 marks). The expenses will be borne as in Germany half by the employers and half by the employees. In addition the state will provide a contribution of $12 (48 marks) for every annuity. The number of those compulsorily insured will amount to about 11,000,000. In Germany 15,200,000 or 24.1 per cent. of the entire population are insured against old age and invalidism. The expenses are $46,100,000 (184,400,000 marks), or $3 (12 marks) for each insured. Of the remaining European states only Austria-Hungary and Belgium have a compulsory insurance for miners. In Italy, Great Britain, Finland and Spain, there is also voluntary insurance; the expense is met by the premiums of the insured with additional sums paid by the state.

Infant Mortality in Germany

The infant mortality in 1909 in Germany was unusually favorable; 335,436 children of less than one year of age died, while the number in 1908 was 359,022, in 1907, 351,046 and in 1906, 374,636. There was a reduction compared with the previous year of 23,586. Among the deaths there were 288,202 (in 1908, 308,630) legitimate and 47,228 (50,342) illegitimate children. It might be assumed that the reduction of infant mortality could be referred to the general decrease of births, but a comparison of the number of births with that of deaths in the first year shows that the deaths have proportionately been very much reduced. Of a hundred born living in 1909, 17 died the first year as compared with 17.8 in 1908, 17.6 in 1907 and 18.5 in 1906. Among legitimate children, the proportion was 16 as compared with 16.8, 16.6 and 17.5; among illegitimate 26.8 as compared with 28.5, 28.0 and 29.4. The fact that even among illegitimates the infant mortality has been so much reduced is a gratifying sign of the success of infant hygiene. The fact that boys are more liable to die than girls is confirmed by the figures for 1909. The percentage of deaths among boys for a hundred births was 18.4 (1908, 19.4), of girls 15.4 (16.2). Considering the individual states, Bavaria presents the most unfavorable statistics, 21.7 in 1908, and *Lippe the most favorable, 10.5 (11.1).* In Berlin the rate was 15.6 as compared with 16.8 in 1908, 16.3 in 1907, and 17.7 in 1906.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 19, 1911.

The New Tax on the Dispensing of Drugs

A short time ago the so-called *Arzneitaxe* (tariff for pharmaceutic substances) was promulgated by the government. This official tariff is compulsory for all apothecaries in this empire, and in accordance with the increased cost of living, its items have been raised a little. The *Taxe*, as it is called, divides the consumers of the articles sold by the apothecaries into two groups. The larger group—the general public—must not be charged less than the tariff stipulates, so as to insure a uniform dealing with all customers. The other group consists of charitable institutions and sick-benefit clubs which may obtain 10 to 30 per cent. discount. For each dispensing (selling) the chemist must charge 20 hellers (4 cents); for each mixing of liquids or ointments double that amount; for dividing a substance into ten powders at least 50 hellers (10 cents); and as much for each infusion, while all manipulations, including the boiling of substances, must be charged for at the rate of 80 hellers (16 cents) as well as the rolling of pills up to 100. For the weighing of quantities of centigrams a slight additional tax is charged, and for smaller quantities than that, the additional tax is doubled. A certain charge is fixed for the containing vessels, jars, boxes, bottles of different sizes and colors and for paper bags. As the sale of remedies after a doctor's prescription is confined to the apothecaries and certain—or rather most—of the potent drugs may not be sold at a usual chemist's shop, the apothecaries are controlled by the state and are subject to the tariff. Therefore, the making up of a prescription is fairly expensive here and public opinion is much opposed to the present system.

The Austrian Census

On Dec. 31, 1910, a census of the population of Austria was taken, as is here the custom every ten years. The results are not yet known for the whole empire, but those pertaining to Vienna are already published. The most noticeable fact is that the increase in the population has not been as great as was calculated. The actual figures for the day mentioned above was 2,004,921, which gives an increase of 302,212 over that found in 1900. The yearly increase of population in the ten years 1880-1890 was 2.51 per cent.; in the years 1890-1900 it was 2.28 per cent., while from 1900 to 1910 it was less than 2 per cent. per annum. This is due to two reasons: the diminution of immigration into the capital and the diminution of the natural increase of population by the surplus of births over deaths. The more important factor is the latter. In 1900 the number of living children born was 52,000. This figure shows a constant fall till last year it was only 45,000. The number of deaths, however, has been fairly constant, in spite of immigration. In 1900 it was 34,672. This in spite of improved sanitation—the Vienna water and drains rank first class among corresponding arrangements of European cities—which saved many a life otherwise endangered. The increase of the population has been chiefly dependent on the birth figures. The bad social and commercial conditions prevailing since 1902 have undoubtedly combined with other factors to bring about the unsatisfactory effect.

A Physician's Fate

Some time ago, a Dr. Franz in an Austrian village reported a case of typhoid fever and had the patient removed to a hospital for infectious diseases. Unluckily, just at that time maneuvers of the army were to take place in this district, and the village of Reidan, where the above-mentioned case occurred, was to have been the headquarters. On account of the typhoid patient this plan was altered and the villagers lost the prospect of pleasure and profit due to the temporary occupation. The grocers and inn-keepers of the village therefore instituted a veritable boycott against the physician. Their influence caused him to lose his appointment as district physician and his practice with the population. Finally his life, his family and his house were exposed to the greatest danger. The people wanted to starve him and his family out for having done his duty. When the infuriated peasants failed to drive the doctor away, actions for damages were brought against him. The excitement was too much for the poor doctor; he suddenly died at the age of 36 from paralysis of the heart. But now the organization of medical practitioners has cooperated and the village is under boycott. It can get no doctor until full provision has been made by the local authorities for the family of the outraged doctor. Furthermore, the government has turned its attention to the matter, so that the guilty will receive punishment. In order to prevent a recurrence of similar events, strict regulations will be made in all cases of appointments of country physicians, in which the duties of the doctor towards public health will be clearly defined. The incident shows what a doctor can expect if the population is of a low standard of enlightenment.

Marriages

Daniel W. Scott, M.D., McDonough, Ga., to Mrs. A. Jennie Utz of Fincastle, Va., January 10.

Herbert Theodore Wagner, M.D., Indianapolis, to Miss Helen F. Bond of Chicago, January 26.

Howard Andrew Knox, M.R.C., U. S. Army, to Mrs. Gladys Barnett Reed, at Brooklyn, January 10.

Buell F. Menefee, M.D., Jonesburg, Mo., to Miss Flora Baker of Montgomery, Mo., January 17.

Clarence R. Farmer, M.D., Elm City, N. C., to Miss Laura Wohlsen of Lancaster, Pa., January 17.

Asher Cadden Biddle, M.D., Lewistown, Mont., to Miss Mary Besse Allen of Athens, O., January 25.

William Flegenheimer, M.D., Guineys, Va., to Miss Meta Huger de Saussure, at Fredericksburg, Va., January 19.

Amos Willis Ball, M.D., Rushville, Ill., to Miss Dorothy M. Chatham of Watertown, Ill., at Princeton, Ky., January 14.

Gray Chandler Briggs, M.D., St. Louis, to Miss Louise Edwards of Chicago, more than a year ago, but just announced.

A. H. Van Voorhis, M.D., Morgantown, W. Va., to Miss Dannie Protzman of Sabraton, W. Va., at Uniontown, Pa., January 17.

Deaths

Joseph Hill Hunt, M.D. College of Physicians and Surgeons, New York City, 1873; first president of the Department of Mineralogy of the Brooklyn Institute; noted as an archeologist; formerly a member of the Board of Education at Brooklyn; and president of the Kings County Medical Society in 1899; instructor in histology and pathology and assistant in surgery in Long Island College Hospital; associate editor of the *Brooklyn Medical Journal;* professor of materia medica, botany and pharmacognosis in the Brooklyn College of Pharmacy; for six years a member of the Brooklyn Board of Pharmacy; surgeon to the Central Throat Hospital, and pathologist to St. Mary's Hospital; died at his home in Newton, N. J., January 15, from heart disease, aged 62.

George Roswell Dean, M.D. Jefferson Medical College, 1868; a member of the American Medical Association, and Southern Surgical and Gynecological Association; a Confederate veteran; at one time president of the South Carolina Medical Association and Southern Railway Surgeons Association; local surgeon for the Southern Railway Company; medical director of the South-Eastern Life Insurance Company; representative in the South Carolina Legislature in 1886; a member of the State Board of Health and a director of the Spartanburg (S. C.) Hospital; died at his home in that city, January 17, from heart disease, aged 66.

Frank Harcourt Koyle, M.D. Medical Faculty of Queen's University, Kingston, Ont., 1888; M.C.P. and S., Ont.; a member of the American Medical Association, and American Laryngological, Rhinological and Otological societies, and American Academy of Ophthalmology and Oto-Laryngology; oculist and aurist to the Steuben Sanitarium, Hornellsville, N. Y., and to the Erie Railway Co.; special examining surgeon for the United States Department of the Interior; died at his home in Hornell, New York, January 17, from pneumonia, aged 46.

Benoni O. Reynolds, M.D. Rush Medical College, 1851; a member and once president of the Wisconsin Medical Society; surgeon of the Third Wisconsin Volunteer Cavalry, during the Civil War; president of the local board of pension examiners of Lake Geneva for eight years; member of the State Board of Health for nine years; for several terms a member of the Wisconsin General Assembly and Senate; died at his home in Lake Geneva, January 19, from cerebral hemorrhage, aged 86.

Michael Harvey Hennel, M.D. Eclectic Medical Institute, Cincinnati, 1891; a member of the Medical Society of the State of North Carolina; of late years a specialist in tuberculosis; died at his home in Asheville, January 8, from spinal meningitis, aged 42. At a special meeting of the Buncombe County Medical Society, January 9, a committee was appointed to prepare resolutions on the death of Dr. Hennel.

William Joseph Furness, M.D. University of Michigan, Ann Arbor, 1891; a member of the American Medical Association; physician to the Manhattan State Hospital, Ward's Island, N. Y.; and visiting surgeon to St. Joseph's Hospital; died in New York City, January 17, as the result of an accident whereby he backed his automobile into the elevator well of a garage, and was crushed under it, aged 40.

John Upton Riggs, M.D. University of Michigan, Ann Arbor, 1868; Bellevue Hospital Medical College, 1873; a member of the American Medical Association, and formerly president of the Williams County (O.) Medical Society; surgeon to the Cincinnati, Jackson and Mackinaw Railway at Bryan, O.; died in the Mounds Park Sanitarium, St. Paul, Minn., January 17, from nephritis, aged 65.

John Heaton Rerick, M.D. University of Michigan, Ann Arbor, 1853; surgeon of the Forty-fourth Indiana Volunteer Infantry during the Civil War; for eight years clerk of LaGrange County, Ind.; and during President Harrison's administration, postmaster of LaGrange; publisher of the *LaGrange Standard* since 1867; died at his home, January [illegible], from pneumonia, aged 81.

Charles Olney Ballou, M.D. Harvard Medical School, 1877; a member of the Rhode Island Medical Society; a veteran of the Civil War; for two years a representative to the General Court, Concord, N. H., and also justice of the peace; medical director of the Department of Rhode Island, G. A. R., for two years; died at his home in Providence, January 18, from pneumonia, aged 80.

Susanna Way Dodds, M.D. New York Hygeio-Therapeutic College, New York City, 1864; Dean of the St. Louis Hygienic College; founder and for half a century superintendent of the Dodds Hygeian Home, St. Louis, but for the last seven years a resident of Yellow Springs, Ohio; died at Long Beach, California, January 20, from senile debility, aged 80.

Francis Augustine Harris, M.D. Harvard Medical School, 1872; since 1877 medical examiner of Suffolk County; demonstrator of medico-legal examinations in his alma mater for 10 or 12 years and for several years professor of surgery in the Boston Dental College; died at his home in Winthrop, January 18, from cerebral hemorrhage, aged 65.

Joshua J. Sweet, M.D. New York University, New York City, 1859; formerly a member of the American Medical Association; who served during the Civil War as an acting assistant surgeon, U. S. Army; pension examiner at Unadilla, N. Y., for thirty-five years; died at his home, January 13, from carcinoma of the stomach, aged 76.

Edwin Faxon Vose, M.D. Boston University School of Medicine, 1876; president of the Maine State Homeopathic Society in 1895; a member of the Maine Academy of Medicine and Maine Board of Registration in Medicine; for six years a member of school board of Portland; died at his home, January 13, from diabetes, aged 60.

Tullio Antonio Rottanzi, M.D. Cooper Medical College, San Francisco, 1877; a member of the medical society of the state of California; formerly a member of the board of supervisors of San Francisco and acting mayor; city physician from 1904 to 1907; died at his home, January 20, from pneumonia, aged 43.

Joseph H. Wills, M.D. University of Pennsylvania, Philadelphia, 1880; a member of the Medical Society of New Jersey; formerly a member of the State Board of Health; district physician of Camden, and a member of the staff of Cooper Hospital; died at his home, January 16, from pneumonia, aged 66.

William Francis McCormick, M.D. Cleveland University of Medicine and Surgery, 1889; for twelve years chief surgeon of the Pacific Coast Coal Company at Franklin and Black Diamond, Wash.; died at his home in Black Diamond, Dec. 22, 1910, from acute dilatation of the heart, aged 52.

Emmett Lee Irwin, M.D. Tulane University, New Orleans, 1888; a member of the American Medical Association; a representative in the Louisiana legislature from 1900 to 1904, and state senator in 1908; died at his home in Clinton, January 15, from acute gastritis, aged 47.

Charles Edward Clark, M.D. Harvard Medical School, 1877; for many years a practitioner of Lynn, Mass.; ferry commissioner of Boston in 1885 and 1886; died at the home of his wife's parents in Passaic, New Jersey, January 20, from acute dilatation of the heart, aged 60.

James S. Berry, M.D. Starling Medical College, Columbus, [illegible]; a member of the Ohio State Medical Association; one of the organizers and president of the Adams County Chautauqua; died at his home in Peebles, January 15, from heart disease, aged 66.

Jay C. Lovejoy, M.D. Eclectic Medical College of the State of New York, 1879; for several years justice of the peace of the town of Edinburg, N. Y.; died at his home in Batchellersville, N. Y., January 17, from hemorrhage of the lungs, aged about 60.

Edward F. Raymond, M.D. Berkshire Medical College, Pittsfield, Mass., 1859; surgeon of the Thirteenth Battalion, Virginia Artillery, C. S. A., during the Civil War; died at his home in Frankford, W. Va., January 18, from angina pectoris, aged 75.

George A. Beltz, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the Medical Society of the State of Pennsylvania; of Greensburg; died in the Allegheny General Hospital, Pittsburg, January 14, from abscess of the brain, aged 28.

John Woodward Gould, M.D. Albany (N. Y.) Medical College, 1880; who has been connected with the Delaware, Lackawanna and Western Railroad for twenty years; died at his home in Newark, N. J., January 18, from angina pectoris, aged 72.

Charles Elmer McCormick, M.D. Pulte Medical College, Cincinnati, 1899; a clerk in the Columbus Post Office; formerly a practitioner of Wellston, Ohio; died at his home in Columbus, January 20, from purpura hemorrhagica, aged 46.

Joshua R. Morton, M.D. University of Pennsylvania, Philadelphia, 1871; president and for several years a member of the Allentown, Pa., school board; died at his home in that city, Oct. 9, 1910, from tuberculosis of the lungs, aged 60.

Charles Lewis Anderson, M.D. Indiana Central Medical College, Greencastle, 1852; an authority on marine botany; for many years a school trustee of Santa Cruz, Cal.; died at his home Dec. 22, 1910, from senile debility, aged 82.

Charles William Schwartz, M.D. Hahnemann Medical College, Philadelphia, 1880; from 1877 to 1889 district physician of Albany County, N. Y.; died at his home in Whitehall, January 17, from cerebral hemorrhage, aged 51.

William Rollo Kinmouth, M.D. College of Physicians and Surgeons, New York City, 1872; a member of the Medical Society of New Jersey; died at his home in Farmingdale, January 11, from pneumonia, aged about 70.

Charles Francis Boyden, M.D. University of Michigan, Ann Arbor, 1896; for several years assistant physician of the Gilbert Sanitarium, Evansville; died in that institution, January 20, from pneumonia, aged 38.

William Racoosin, M.D. Long Island College Hospital, Brooklyn, 1904; a member of the American Medical Association; died at his home in Centerville Station, N. Y., January 1, from pneumonia, aged 40.

John Henry Finch, M.D. College of Physicians and Surgeons, Baltimore, 1886; a member of the Medical Association of the State of Alabama; died at his home in Birmingham, January 11, from paresis, aged 52.

Norman Powell Lake, M.D. University of Virginia, Charlottesville, 1908; a member of the American Medical Association; died at his home in Rectortown, Va., January 7, from typhoid fever, aged 34.

James Thomas Black, M.D. University of Tennessee, Nashville, 1901; of Elroy, Tex.; a member of the American Medical Association; died in Driftwood, Tex., Nov. 9, 1910, from abscess of the liver, aged 35.

George A. Binder, M.D. University of Minnesota, Minneapolis, 1892; a member of the American Medical Association; died at his home, Dayton's Bluff, St. Paul, January 15, from typhoid fever, aged 45.

Francis Marion Monroe, M.D. Medical College of the State of South Carolina, Charleston, 1861; a Confederate veteran; died at his home in Latta, S. C., Oct. 21, 1910, from senile debility, aged 72.

Robert McCready, M.D. Bellevue Hospital Medical College, 1869; for more than fifty years a practitioner of Sewickley, Pa.; died at his home in that place, January 17, aged 80.

Richard Mentor McGuffin, M.D. University of Pennsylvania, Philadelphia, 1872; died at his home in Bramwell, W. Va., Sept. 7, 1910, from cerebral hemorrhage, aged 63.

Frederick Lowell Crandell, M.D. Rush Medical College, 1882; formerly a police surgeon of Chicago; died at his home in Denver, January 5, from pneumonia, aged 56.

John P. Brown, M.D. University of Southern California, Los Angeles, 1902; died at his home in Rogers, Ark., January 12, from tuberculosis of the liver, aged 43.

William Haggerty, M.D. New York University, New York City, 1868; died at his home in Scranton, Pa., Dec. 29, 1910, from general nervous breakdown, aged 69.

Elihu H. Ayers, M.D. Rush Medical College, 1859; for many years a practitioner of Dallas, Tex.; died at the home of his daughter in that city, January 5, aged 77.

Columbus D. Smith, M.D. University of Pennsylvania, Philadelphia, 1851; formerly of Newnan, Ga.; died at the home of his son in Atlanta, January 12, aged 83.

Albert B. Barker, M.D. Eclectic Medical College of the City of New York, 1863; died at his home in Cincinnati, January 20, from cerebral hemorrhage, aged 73.

Charles E. Quail, M.D. University of Maryland, Baltimore, 1867; of Auburn, Pa.; died in Harrisburg, Pa., Dec. 21, 1910, from angina pectoris, aged 69.

William H. Richards, M.D. Miami Medical College, Cincinnati, 1872; of Hicksville, O.; died at the Angola (Ind.) Hospital, January 2, aged 72.

Frank Bostwick Lundy, M.D. Toronto School of Medicine, 1880; died suddenly at his home in Portage la Prairie, Man., Dec. 26, 1910, aged 53.

Franklin Bedford, M.D. Rush Medical College, 1873; a practitioner since 1865; died at his home in Maple Park, Ill., January 15, aged 81.

Matthew B. Drake, M.D. Cumberland University, Memphis Medical College, 1856; died at his home in Ladonia, Tex., January 9, aged 78.

Albin Vincent Wright (license, Navarro County, Tex., 1874); died at his home in Corsicana, July 1, 1910, aged 72.

A. J. Swindell (license, Texas, 1902); died at his home in Hermleigh, January 11, from pneumonia, aged 43.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

NATURE'S CREATION—A SEQUEL

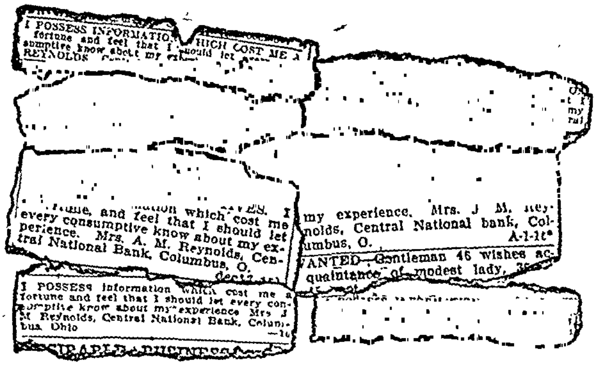
Some Testimonials That Have Been Published and Some That Have Not

Nature's Creation, a "consumption cure" fraud of the vicious type, was pretty thoroughly exposed in The Journal, March 5, 1910. As will be remembered, this nostrum was exploited originally as a "cure" for syphilis and was switched over into the "consumption cure" class after an awakened public interest in tuberculosis had made the sale of such "cures" increasingly profitable. It was then advertised "for tuberculosis only." As a syphilis "cure" it was recommended with stupendous effrontery as a substitute for the "potash" treatment against which the patient was warned. Examination of the stuff in the Association laboratory indicated that it was "essentially a *solution of potassium iodid* in a weakly alcoholic medium containing vegetable extractives and flavoring matter and small quantities of inorganic salts." And this potash solution was exploited as a means of avoiding the "potash treatment" and, furthermore, was sold as a product "made entirely from vegetable matter!"

THE "BLIND" ADVERTISEMENT

Nature's Creation has in the past been given publicity by means of large display advertisements in the newspapers. Recently the method of using a "blind" advertisement in the classified columns of the newspapers has been adopted. The following is appearing (Fig. 1) in the "Personal" column of papers all over the country:

> PERSONAL—TO CONSUMPTIVES: I possess information which cost me a fortune, and feel that I should let every consumptive know about my experience. Mrs. J. M. Reynolds, Central National Bank, Columbus, Ohio.



I POSSESS INFORMATION WHICH COST ME A fortune and feel that I should let every consumptive know about my experience. REYNOLDS

...tune, and ...mation which cost me I every consumptive know about my experience. Mrs. A. M. Reynolds, Central National Bank, Columbus, O.

my experience. Mrs. J. M. Reynolds, Central National bank, Columbus, O. A-1-1t*

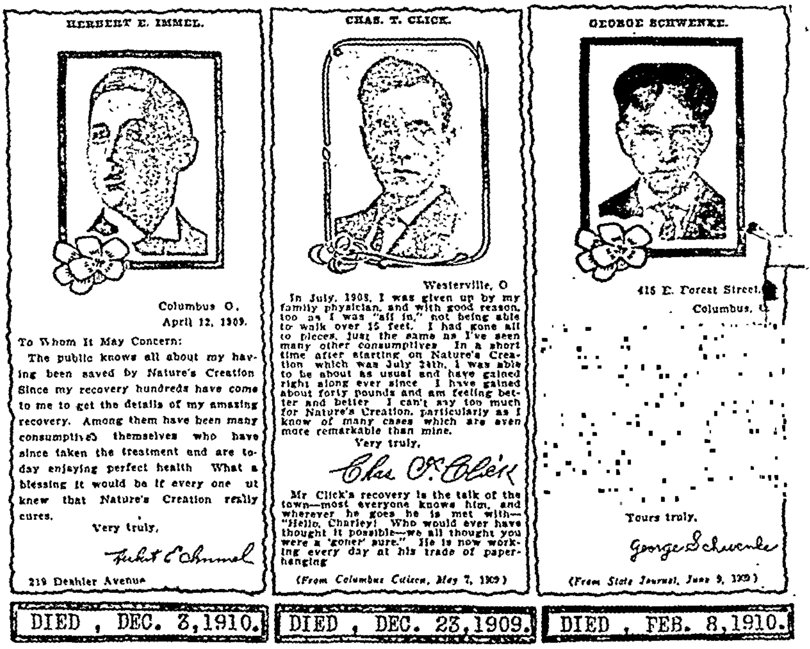
WANTED—Gentleman 46 wishes acquaintance of modest lady,

I POSSESS information which cost me a fortune and feel that I should let every consumptive know about my experience Mrs. J. M. Reynolds, Central National Bank, Columbus Ohio —1t

Fig. 1.—Photographic reproduction (reduced) of some of the numerous advertisements of Nature's Creation appearing as "blind ads." under the "Personal" columns in the classified advertising sections of newspapers all over the country. The advertisements here shown are taken from the Mobile (Ala.) *Register*, the Peoria (Ill.) *Star*, the Boston (Mass) *American*, the Los Angeles (Cal.) *Examiner*, the Montgomery (Ala.) *Advertiser*, the Binghamton (N. Y.) *Press* and the Chicago (Ill.) *Daily News*. Notice that the first letter of the initials prefixed to Mrs. Reynolds' name varies in different papers. This is done by the company as a means of checking up the number of inquiries obtained from a given advertisement.

The victims who answer this advertisement receive a letter written on pale blue stationery such as is used for social correspondence. The letter is signed—not always in the same handwriting—"Mrs. J. M. Reynolds" and the initials J. M. R. are embossed, monogram style, in gilt on the paper and also on the envelope. In this letter Mrs. Reynolds states she has cured herself, "in defiance of the world's scientists," by the discovery of "a combination of certain roots and herbs." Whether she cured herself of syphilis or consumption, she does not state, but she does say that in the joy of being well, "I am now devoting my life to saving others."

The recipient of this social epistle is further told by Mrs. Reynolds that as it is impossible for her "to attend personally to the multitude of inquiries" that reach her, "I am referring your request to my Secretary—Mr. Campbell—you will no doubt hear from him soon." By the next mail comes a letter from the Nature's Creation Company signed "H. W. Campbell, Sec'y." It was the H. W. Campbell Company, then of Chicago, that exploited this same fake as a syphilis cure a few years ago.



HERBERT E. IMMEL.

Columbus O.
April 12, 1909.

To Whom It May Concern:

The public knows all about my having been saved by Nature's Creation Since my recovery hundreds have come to me to get the details of my amazing recovery. Among them have been many consumptives themselves who have since taken the treatment and are today enjoying perfect health What a blessing it would be if every one ut knew that Nature's Creation really cures.

Very truly,

Herbert E. Immel

219 Deahler Avenue

DIED, DEC. 3, 1910.

CHAS. T. CLICK.

Westerville, O

In July, 1908, I was given up by my family physician, and with good reason, too as I was "all in," not being able to walk over 15 feet. I had gone all to pieces, just the same as I've seen many other consumptives In a short time after starting on Nature's Creation which was July 24th, I was able to be about as usual and have gained right along ever since I have gained about forty pounds and am feeling better and better I can't say too much for Nature's Creation, particularly as I know of many cases which are even more remarkable than mine.

Very truly,

Chas. T. Click

Mr Click's recovery is the talk of the town—most everyone knows him, and wherever he goes he is met with—"Hello, Charley! Who would ever have thought it possible—we all thought you were a 'goner' sure." He is now working every day at his trade of paper-hanging

(From Columbus Citizen, May 7, 1909)

DIED, DEC. 23, 1909.

GEORGE SCHWENKE.

415 E. Forest Street,
Columbus, O.

Yours truly,

George Schwenke

(From State Journal, June 9, 1909)

DIED, FEB. 8, 1910.

Fig. 2.—Photographic reproduction (reduced) of three pages from the Nature's Creation testimonial booklet. In each case the person testifying to his "cure" of tuberculosis by Nature's Creation has died of that disease. In the case of George Schwenke, this record of his "cure" is being sent out, a year after his death!

Mrs. Reynold's solicitude for the welfare of the sick may be understood when it is known that she is the president and a director of the Nature's Creation Company, capitalized at $200,000.00—a concern engaged in exploiting a discarded syphilis "cure" to consumptives at $5.00 a bottle.

CHARGES NOT DEFINITE ENOUGH

When the previous article appeared exposing Nature's Creation, the concern said that The Journal's charges were vague and so carefully worded as to avoid legal reprisal. The public was told in sensational advertisements that the editor of The Journal did not dare to say that Nature's Creation "was a fake or fraud, or that it did not cure." Since, apparently, we did not make ourselves clear in the previous article we may summarize our findings more specifically at this time:

First.—Nature's Creation *is* a fake.

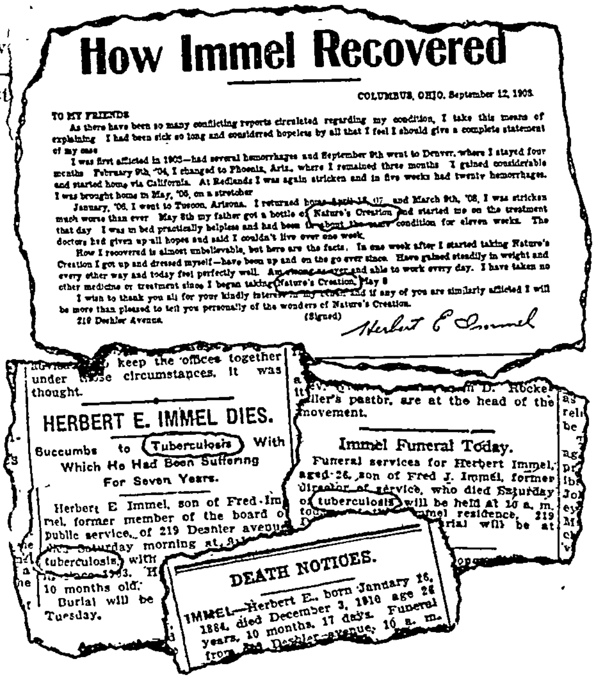
Second.—Nature's Creation *is* a fraud.

Third.—Nature's Creation will *not* cure consumption.

TESTIMONIALS

No "consumption cure" is complete without its testimonials. The worthlessness of such testimony, from a scientific standpoint, has repeatedly been shown, and this, too, without assuming that the letters are fraudulent. That many of the letters published by fake medical concerns are documentarily genuine there is no doubt; that is to say, the letters were actually written. How valueless they are is made evident by looking into the cases of the individuals giving them. On investigating "consumption cure" testimonials, one of two things is practically always found: Either the writer of the testimonial did not have tuberculosis and recovered from his indisposition in spite of the nostrum, rather than because of it; or, the poor victim, in the first flush of optimism that comes whenever a new remedy is tried, deluded himself into believing that the stuff actually helped him.

We are reproducing (Fig. 2) three testimonials taken from the Nature's Creation advertising. In all three cases the poor victims who wrote them are dead. But the testimonials still live to delude other unfortunate sufferers from a disease which no drug can cure—in fact, Nature's Creation booklet in which the testimonial of George Schwenke appears, is still (January, 1911) being distributed—nearly a year after George Schwenke died!



How Immel Recovered

COLUMBUS, OHIO, September 12, 1908.

TO MY FRIENDS

As there have been so many conflicting reports circulated regarding my condition, I take this means of explaining. I had been sick so long and considered hopeless by all that I feel I should give a complete statement of my case.

I was first afflicted in 1903—had several hemorrhages and September 9th went to Denver, where I stayed four months. February 9th, '04, I changed to Phoenix, Ariz., where I remained three months. I gained considerable and started home via California. At Redlands I was again stricken and in five weeks had twenty hemorrhages. I was brought home in May, '05, on a stretcher.

January, '06, I went to Tucson, Arizona. I returned home April 15, '07, and March 9th, '08, I was stricken much worse than ever. May 8th my father got a bottle of Nature's Creation and started me on the treatment that day. I was in bed practically helpless and had been in about the same condition for eleven weeks. The doctors had given up all hopes and said I couldn't live over one week.

How I recovered is almost unbelievable, but here are the facts. In one week after I started taking Nature's Creation I got up and dressed myself—have been up and on the go ever since. Have gained steadily in weight and every other way and today feel perfectly well. Am strong as ever and able to work every day. I have taken no other medicine or treatment since I began taking Nature's Creation, May 8.

I wish to thank you all for your kindly interest in my behalf, and if any of you are similarly afflicted I will be more than pleased to tell you personally of the wonders of Nature's Creation.

219 Deshler Avenue. (Signed) Herbert E. Immel

keep the offices together under those circumstances, it was thought.

HERBERT E. IMMEL DIES.

Succumbs to Tuberculosis With Which He Had Been Suffering For Seven Years.

Herbert E. Immel, son of Fred Im- mel, former member of the board o public service, of 219 Deshler avenue Saturday morning at tuberculosis, with since 1903. 10 months old.

Burial will be Tuesday.

ller's pastor, are at the head of the movement.

Immel Funeral Today.

Funeral services for Herbert Immel, aged 26, son of Fred J. Immel, former director of service, who died Saturday of tuberculosis will be held at 10 a. m. mel residence, 219 rial will be at

DEATH NOTICES.

IMMEL—Herbert E., born January 16, 1884, died December 3, 1910, age 26 years, 10 months, 17 days. Funeral from Deshler avenue, 10 a. m.

Fig. 3.—These reduced photographic reproductions of a testimonial and three newspaper clippings tell their own sad story. The testimonial was published as an advertisement in the Columbus *Dispatch*, and later reproduced as an advertising circular by the Nature's Creation Company. The death and funeral notices also are taken from Columbus newspapers.

SOME TESTIMONIALS HITHERTO UNPUBLISHED

So much for testimonials that are favorable to the nostrum; now for the reverse of the shield. As has been said before, the Nature's Creation concern has its headquarters at Columbus, O. The local medical profession in that city is much alive to the viciousness of this fake and has taken active steps to combat it. For some time the Board of Health of the City of Columbus has been collecting data relative to the use of this nostrum. The matter that follows is from official sources, from the records of the district medical service, the district nurses' service and from the reports of the tuberculosis hospital. We submit a few testimonials that the Nature's Creation Company has, so far, not published and probably will not want to. And it should be remembered that the information here given deals, practically, with but one locality, that of Columbus, Ohio:

NO BENEFIT

March 23, 1910.

"I took Nature's Creation one year ago without benefit. Gave up taking it and came to the hospital, and am greatly improved since coming here. Have gained more than twenty-five pounds and feel much better than for two years.—*Emanuel Lewis.*

NOT WORTH NINE CENTS

March 23, 1910.

"I took Nature's Creation last summer because it was claimed a cure for tuberculosis. *Took two bottles without benefit.* Wish I could get my $9 back. They gave me two bottles for $9, but I do not consider that the two bottles were worth 9 cents.—*E. M. Deveraux.*"

UNABLE TO LEAVE BED AFTER TAKING

March 23, 1910.

"I took Nature's Creation in the spring of 1909 on advice of a friend. Took three bottles. I was far worse off when I quit than when I started taking it. I decreased in weight and felt worse generally. I was able to be up and about when I commenced taking it, but was unable to leave my bed after taking two bottles . . . Wish that I could recover $15 they took from me without benefit.—*Mrs. Herron.*"

UPSET HIS STOMACH—HASTENED HIS DEATH

"My son, Gussie Jones, was suffering with tuberculosis for about a year. Nature's Creation was recommended to him as a cure, and finally he began taking it. He took two bottles of the medicine, but before he had finished the first he suffered terribly with his stomach as a result of it . . . I firmly believe that it did him more harm than good, and hastened his death, and I am free to make this statement of the facts of the case.—*Mrs. H. C. Jones.*"

FIVE BOTTLES—NO BENEFIT

March 23, 1910.

'To Whom It May Concern: This is to certify that my sister, Mrs. J. E. Kibby, deceased, while living at 537 West Rich Street, and who was suffering from pulmonary tuberculosis, bought and used as per directions, five bottles of Nature's Creation. She did not gain in strength or appear to be benefited whatsoever by its use.—*J. Redman.*"

BELIEVED THE ADVERTISEMENTS—IS NOW DEAD

March 21, 1910.

"My daughter, Carrie, went South for her health about May, 1908, having been advised to go there by our family physician. To keep her from becoming lonesome I subscribed for the *Dispatch* (Columbus), in which she saw the advertisement for Nature's Creation, and would not be satisfied until she had tried it. She came home for the express purpose of taking this remedy, believing that the advertisements were true and that the remedy would cure her.

"She went to the Nature's Creation Company, was examined and told by them that the remedy would cure her and that she would have a 'speedy recovery.' . . . She took the medicine as advertised *by the company, but no improvement was noticed.* . . . She gradually grew worse and died on Oct. 14, 1909, and we believe that her death was hastened by the use of this medicine. . . .—*Charles H. McGuire.*"

The attention of those gentlemen of the daily press who feel that their responsibility extends no further than their editorial columns, is respectfully called to Mr. McGuire's letter. No fine-drawn sophistries can excuse such papers as carry advertisements of fake consumption cures, from the moral guilt involved. Without the aid of the press these vicious frauds would die, for without publicity they would cease to be profitable and it is for profit only that they exist.

THE TESTIMONY OF RELATIVES

One of the officers of the Board of Health, Columbus, sends in statements from various individuals whose relatives had taken Nature's Creation. Here are two of them:

"Mrs. Homer Eggleston, who formerly lived at 203 S. Belle Street, stated that her husband died of tuberculosis after taking four bottles of Nature's Creation. She stated that she did not think it did him any good whatever."

"Mr. J. N. Schilling, 438 Naghten Street, stated to me that his daughter took from ten to twelve bottles of Nature's Creation; that it was of no benefit whatever to her and really did her more harm than good; she died several months ago."

SOME ADDITIONAL REPORTS

The Columbus Society for the Prevention and Cure of Tuberculosis, through its visiting nurses, has had excellent opportunities for obtaining first-hand information about the use of this cruel fake. Some of the reports made by the nurses are here given:

John Woods: Took Nature's Creation and insisted that he was improving. This was not apparent to the visiting nurse. Died March 14, 1910.

Miss Ford: Took Nature's Creation when first taken ill. Died March 24, 1910.

Louis Goodwin: An incipient case, when he began taking Nature's Creation. Took from eight to ten bottles before death. Died Jan. 9, 1909.

Mrs. Mack: After taking two bottles of Nature's Creation, went up to the office of the company and demanded an examination. A man in the office said she was looking so well that they would pronounce her cured. Died May 23, 1910.

Joseph Kessler: Was a hopeful case. Lost valuable time taking Nature's Creation until it was too late for other treatment to be of any benefit. Failed steadily. Died June 2, 1909.

Ira May: Took Nature's Creation for a time, during which period he sat in a closed room huddled over a fire. Died March 3, 1910.

Joseph Steele: Took Nature's Creation until bedridden. Died Dec. 26, 1908.

Mrs. Geyer: Took several bottles of Nature's Creation, but as considerable stomach disturbance followed, discontinued. Died Dec. 4, 1909.

A GRUESOME LIST

The following classified list has been collected by the Columbus Board of Health. It consists of the names of those persons who have taken Nature's Creation—advertised to "check at once further progress of the disease"—but who, nevertheless, died:

SOME COLUMBUS, OHIO, PERSONS WHO HAVE TAKEN NATURE'S CREATION

NAME	DIED	NAME	DIED
William Malinhoff	7-20-1908	Chas. W. Davis	1-15-1910
R. J. Jones	8-25-1908	C. F. Higginbotham	2- 4-1910
Myrtle M. Furrow	9-23-1908	George Schwenke*	2- 8-1910
William Snyder	9-27-1908	Ira May	3- 4-1910
Anna Philos	10-19-1908	Casper Herman	3- 5-1910
Edward Stock	10-26-1908	Howard A. Denune	3- 6-1910
Anna Barbara	11-24-1908	Ned L. Evan	3-13-1910
Irene A. Freeman	12- 9-1908	John Woods	3-14-1910
Almeda E. Irwin	12- 8-1908	B. F. Segines	3-18-1910
J. Steele	12-26-1908	John J. Jenkins	3-19-1910
George Wertz	1-15-1909	Mary I. Ford	3-24-1910
Carl Hasbrook	2- 2-1909	Forrest J. Greenlee	3-31-1910
Joseph Kessler	6-12-1909	Sarah R. Ross	4- 5-1910
Chas. Wm. O'Day	6-29-1909	Samuel Robinson	4-30-1910
Mrs. J. Kibby	7-31-1909	Mrs. Mack	5-23-1910
Florence Underwood	9- 2-1909	John C. McAfee	8- 9-1910
Theresa Harst	9- 3-1909	George H. Howell	8-11-1910
Lucy Fultz	9- 3-1909	Daisy Sherman	11-10-1910
Christina Shilling	9- 8-1909	Herbert W. Immel*	12- 3-1910
Carrie McGuire	10-14-1909	Anna S. Smith	12- 3-1910
G. W. Johnson	11-26-1909	Mrs. Geyer	12- 4-1910
George Smith	11-28-1909	Maud Peters	12-20-1910
Sheldon Harsh	12-21-1909		

* See Figure 2 for copies of testimonials by George Schwenke and Herbert Immel.

CONCLUSION

As has already been stated, the information just given deals with but one locality—Columbus, O. When it is realized that this iniquitous stuff is being advertised and sold from Maine to California the misery left in its wake may be imagined. While what precedes is but a part of the damning evidence which has been submitted against Nature's Creation we believe it is sufficient to convict this cruel fake at the bar of public opinion.

How much longer will the sale of this humbug be permitted? Its continued existence will depend on two things—the gullibility of the public and the willingness of the press to share in the company's blood-money by accepting advertisements of the nostrum. It is little less than criminal that men without even the pretence of medical training and with more capital than conscience should be free to exploit a valueless mixture of drugs as a cure for a disease which no drug can cure.

It is hoped that physicians will make it their duty to call the attention of the public to the facts here presented. Nature's Creation is but a type; if it goes out of existence there still remain scores of fakes just as vicious and just as cruel. And as they, too, die, others will spring up to take their places. So long as the credulity of ignorance is a human attribute, so long will the "consumption cure" and "cancer cure" fakes thrive. The only remedy is enlightenment and it is a fact, as notorious as it is pathetic, that a vast section of the public is densely ignorant of the limitations and possibilities of drugs.

Unfortunately, the medium through which the public could so easily be reached and enlightened—the newspapers—is, to a large degree, unavailable. Many of these publications are still too deeply under the blighting influence of the "patent medicine" advertisers ever to print the truth about these frauds. But the number of newspapers whose silence cannot be purchased increases yearly and their power is slowly but surely making itself felt. In the meantime it is the physician's duty to the public to give it the enlightenment which it needs for its own protection against "consumption cure" swindlers and other frauds equally vicious.

Correspondence

A Case of Blepharospasm: Information Wanted

To the Editor:—An interesting case came to my notice some time ago which, among other things, presented a most peculiar condition. I will not report it in full at this time as I hope to make a more thorough study of the case before a final report.

The patient has tonic blepharospasm, which has been present daily for about twenty-five years. The spasm is very painful and is accompanied by rolling of the eyeball into its position of rest; and the patient experiences a sensation of contraction in the region of the ciliary muscle. A peculiar feature of the case is that, since beginning to menstruate at the age of 14, the patient notices absolute relief from the painful symptoms during the menstrual period, whereas before the flow begins the spasm is more severe, and following the period the spasms for two or three days are much less severe. In the ordinary acceptance the patient could not be considered a nervous patient.

Perhaps some of my colleagues may have seen such a case, and from those to whose attention this brief statement may come I should be very glad to hear as I have so far found no similar condition recorded.

Robert Scott Lamb, M.D., Washington, D. C.
The Cecil.

Gonorrhea and Ophthalmia Neonatorum

To the Editor:—Dr. Sampliner's letter in The Journal last week directs attention to a subject of such great importance that it merits special emphasis. Almost every case of infantile blennorrhea sufficiently severe to cause blindness is of gonococcal origin and the result of an uncured gonorrhea in the father. There are not many men base enough to be wilful purveyors of an infection which carries in its train blindness, mutilation and death; so it must be that the mother of the child who develops ophthalmia neonatorum is infected because the father has not been forewarned by his physician of his possibilities as a disease-carrier. The truth should be made more clear to our students in the colleges that gonorrhea is not a simple affair to be treated with the nonchalance of a cold; that it is often exceedingly obdurate; and above all, that it is a source of danger as long as any infective germs are present. Nor is it as generally known as it should be that the absence of a discharge at the meatus following the treatment of an active gonorrhea is by no means proof positive that gonococci may not be found in the deeper parts of the urethra. A little beer taken in the evening, followed by gentle massage of the prostate in the morning, will in some cases bring to view a drop or two of a secretion which will be found to be loaded with gonococci and capable of developing an acute gonorrhea in the female. By proper treatment this condition can be cured and the man be made safe. There is a temptation, even while a visible discharge remains which taxes the patience of both the patient and doctor, for the latter finally to say in desperation, "Oh, that's all right, you are practically cured," thereby giving a false sense of security which the conditions do not warrant. It should be made clear, beyond the possibility of misunderstanding to the patient that *so long as any discharge from the urethra can be secured it may be safely assumed in the absence of microscopic examination that infection is present and that marriage should be absolutely forbidden.* It is these unfinished cases that are responsible for the vast amount of misery caused by gonorrhea. It is hoped that the state departments of health may soon make this one phase of the valuable preventive work in which they are engaged and that other states may follow the lead of Indiana in giving our daughters legal protection from an avoidable infection which in so many cases is followed by frightful disasters.

F. PARK LEWIS, Buffalo, N. Y.

Phenolphthalein May Cause Pink Stools

To the Editor:—The following recent incident may be as pharmacologically interesting and instructive to others as it was to me:

I was called to see a child on account of an alleged bloody stool with severe abdominal pain and tenesmus. There had been no bowel movement for two days except a little pinkish liquid, which was negative to the guaiac blood-test. In making this test, however, it was observed that the color disappeared on the addition of acetic acid. Another sample of the stool, similarly acidified, promptly regained its color on being made ammoniacal. These unsual findings led to an investigation that resulted in procuring a cathartic tablet such as the patient had taken a few hours before. A solution of this tablet gave the same color reactions as the stool, making it very probable that all the signs and symptoms were due to phenolphthalein, especially as they disappeared after free castor-oil catharsis.

H. S. BARTHOLOMEW, Lansing, Mich.

[COMMENT.—The reaction of phenolphthalein with alkaloids should always be borne in mind.—ED.]

Preservation of Rubber Bulbs

To the Editor:—The difficulty of keeping rubber bulbs in long service, complained of by Dr. Goodman (THE JOURNAL, Jan. 14, 1911, p. 113), has led me to devise a contrivance which does away with the rubber bulb altogether and is much cheaper as well as more satisfactory. The device consists of an ordinary bicycle pump connected with a piece of rubber tubing by means of a Schrader valve (used in a bicycle tire). To the end of the barrel of the pump is soldered on a flat band made of sheet tin, leaving a space through which a leather strap is passed and by means of which the pump may be secured to one's leg or other convenient support. In using the sphygmomanometer the pump is attached to the apparatus and operated in the same manner as the rubber bulb. It will be found, however, that the pump gives a much nicer graduation of the force, the air under pressure being prevented from escaping by the Schrader valve. The cost of the outfit is about 50 cents, and, with slight attention to oiling and the washers, will last a lifetime.

ALBERT ROBIN, M.D., Wilmington, Del.

The Fitting of Glasses by Unqualified Persons

To the Editor:—Your comment on "The Fitting of Glasses" in 10-cent stores was read with interest. That refractions of this kind cannot be in any way accurate and that the glasses of this kind do lots of harm cannot be doubted. But in my opinion the harm done by a "fake" device of any kind is measured by the reliance put in it by the user.

The 10-cent stores do not pretend to have any great amount of skill as refractionists and charge a low price for their glasses. Their patrons will, as a rule, soon find that the glasses purchased are not right and will discard them. But the optician, "eye specialist" with his handsomely decorated "office," his prevaricating advertisements and his fee of from $10 to $20 for his services and glasses does command confidence. Therein lies the danger. His hypermetropic "patients" will continue to wear the myopic glasses he has prescribed; the impression he has made will cause no doubts in their minds as to his fitness.

Let us get at the greater evil. The man whose sign blazes out "Pawn Broker and Eyesight Specialist" doesn't do nearly so much harm as his competitor whose advertisement reads, "Dr. ———, Optometrist. No matter what is the trouble with your eyes, call on me."

The first is passed by with a laugh, the second is sought out as a man of great skill.

J. W. KIMBERLIN, M.D., Kansas City, Mo.

Value in Case Histories of Term "Jew" as Racial Designation

To the Editor:—An unintentional error in classification of nationalities in medical articles, case reports, etc., is regarded as an injustice by a portion of the community, and your aid is sought to prevent repetition. The use of the designations "Jew," "Hebrew" and "Israelite" with their adjectives is here referred to, because when so employed these terms are meaningless. City Jews may possibly be distinctively more subject to diabetes and nervous affections than the average of our population but so large a proportion of the former now live the rural life that general deductions regarding these or any other diseases no longer hold good. Then, again, so large a percentage of Jews show admixture of other race stocks that mistakes are liable to occur from this source; authoritative statistics covering the world have just been published to prove this fact. See, also, Jean Finot's "Race Prejudice" and Antoine Leroy Beaulieu's "Israel Among the Nations."

It is because of the gross legal and political wrongs sometimes suffered by communicants of the Jewish faith that redress is here asked. When the present National Immigration Commission recently made the same error, so strong a united complaint arose from the national bodies of American Jews that correction promptly followed.

A. B. HIRSH, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USES OF CHROMIUM SULPHATE IN MEDICINE

To the Editor:—What place has chromium sulphate in medicine? The manufacturing chemists are advertising it extensively and I think that many physicians would like to obtain some idea of how much to believe of "The Uses of Chromium Sulphate in Medicine."

N. F. CHEEVER, M.D., Greenfield, N. H.

ANSWER.—The subject of chromium sulphate was discussed briefly in THE JOURNAL, Nov. 6, 1909, p. 1580. At that time we stated that the only article on the subject in medical literature appeared in the *Monthly Cyclopedia and Medical Bulletin*, September, 1908, by S. Kolipinski. An article by B. O. LeBlanc appeared in the *New Orleans Medical and Surgical Journal*, November, 1910, p. 346, in which the author reports that he used this drug in a case of ataxic paraplegia after other treatment had failed to produce improvement, and that after six weeks of treatment the patient was able to walk. The case is imperfectly reported, but does not appear to have been a case of myelitis, as sensation was unimpaired and the knee-jerk reflex was increased. The same symptoms would exclude locomotor ataxia. No statement is made as to whether the paralysis was flaccid or spastic. No electric test of the muscles is reported.

In addition to this article there are a number of reports to which little credence is to be attached on account of incompleteness of observation and report. One author reports a case of epilepsy in which he thinks there was benefit, but the report was made not more than two months after the last attack. The same author reports a case of nervousness in a patient who collapsed and was compelled to go to bed. "Could not sleep and was mildly hysterical. Chromium sulphate and rest straightened her out very nicely."

The remedy is being pushed in a semi-proprietary way, but the fact that so little reliable information is obtainable indicates that the drug is probably of little value, and that Kolipinski's observations require confirmation.

DIFFERENTIATION OF SPIROCHÆTA PALLIDA FROM NON-PATHOGENIC SPIROCHETES

To the Editor:—Please describe the method of differentiating the *Spirochæta pallida* from non-pathogenic spirochetes.

J. H. Schrup, M.D., Dubuque, Iowa.

Answer.—The differential diagnosis between *Spirochæta pallida* or *Treponema pallidum* and non-pathogenic spirochetes is based on the comparative motility and the width and number of curves which the different microorganisms present. The non-pathogenic spirochetes have a somewhat rapid motility, while the *Spirochæta pallida* seems to lie lazily in the material in which it is suspended (Gurd). The principal non-pathogenic spirochetes are *Spirochæta refringens, Spirochæta dentium* and *Spirochæta buccalis.*

Spirochæta refringens is larger, thicker, more refractile; its spirals are broader and wavier; its ends are blunter; it occurs in great numbers in a smear; and it stains more easily than *Spirochæta pallida.*

The morphology of *Spirochæta buccalis* is similar to that of *Spirochæta refringens,* and the organism is easily distinguished from the treponema with its short deep curve.

Spirochæta dentium is more liable to lead to error in diagnosis; its body is finer than the other forms mentioned and the curves are shorter and placed more closely together. The body of this organism is, however, always definitely thicker than the treponema and never does one find more than five turns to the diameter of a red blood-cell, nor are the extremities drawn out in the manner of the organism of syphilis. According to Coles, there are from six to seven turns of the treponema in the length of the diameter of a red blood-cell and the total length is equal to the diameter of one or two red cells and sometimes more. The total length contains from six to fourteen and sometimes twenty or more turns of the spiral. The *Spirochæta dentium* rarely has more than four or occasionally five turns; the other organisms from two to three, possibly five, but never more.

BOOKS ON PREVENTIVE MEDICINE, HYGIENE AND SANITATION

To the Editor:—Please refer me to a book on preventive medicine or sanitation and hygiene, or some up-to-date articles on the subject.

C. E. Gilliatt, Allendale, Ill.

Answer.—The following are among the best books on these subjects:

Abbott: Hygiene of Transmissible Diseases, Second Ed., W. B. Saunders Co., Philadelphia; price $2.50.

Baker: Municipal Engineering and Sanitation, Macmillan Co., New York; price $1.25.

Bergey: Handbook of Hygiene, John Wiley & Sons, New York; price $1.50.

Egbert: Hygiene and Sanitation, Lea Brothers & Co., Philadelphia; price $2.25.

Harrington: Practical Hygiene, Lea Brothers & Co., Philadelphia; price $4.25.

Notter: Theory and Practice of Hygiene, P. Blakiston's Son & Co., Philadelphia; price $7.00.

Parkes: Practical Hygiene, William Wood & Co., New York; price $4.00.

Richardson: Preventive Medicine, Lea Brothers & Co., Philadelphia; price $4.00.

Sedgwick: Principles of Sanitary Science and the Public Health, Macmillan Co., New York; price $3.00.

Stevenson and Murphy: Hygiene, P. Blakiston's Son & Co., Philadelphia; price, Vols. I and II $6.00 each and Vol. III $5.00.

Whitelegge and Newman: Hygiene and Public Health, W. T. Keener & Co., Chicago; price $1.75.

Wilson: Handbook of Hygiene and Sanitary Science, P. Blakiston's Son & Co., Philadelphia; price $3.00.

The *Quarterly Bulletin of the Ohio State Board of Health,* October-December, 1910, is a very practical pamphlet on the subject. We referred to it editorially on page 274. The offices of the board are at Columbus, Ohio.

BOOKS AND JOURNALS ON INSANITY

To the Editor:—Please inform me by whom Kraepelin's work on insanity is published; also give me a list of recent standard works on insanity and state by whom published, and advise me of the best journals devoted exclusively to this specialty.

Francis H. Poole, M.D., Pocatello, Idaho.

Answer.—The following are some of the principal works on insanity:

Kraepelin: Clinical Psychiatry, William Wood & Co., New York; $3.50 net.

Brower and Bannister: Insanity, W. B. Saunders Co., Philadelphia; $3 net.

Bruce: Clinical Psychiatry, Macmillan Co., New York; $4 net.

Church and Peterson: Nervous and Mental Diseases, Ed. 6, W. B. Saunders Co., Philadelphia; $5 net.

The following journals are suggested:

Journal of Nervous and Mental Diseases; subscription $5; monthly; published by S. E. Jelliffe, 41 North Queen Street, Lancaster, Pa.

Brain: Macmillan Co., St. Martins Street, W.C., London, England.

American Journal of Insanity; subscription $5; quarterly; Johns Hopkins Press, Baltimore.

Journal of Mental Pathology; subscription $2.50; monthly; State Press, 28 West 126th Street, New York.

Psychological Review; bimonthly; subscription $4.50; Johns Hopkins Press, Baltimore.

Journal of Comparative Neurology and Psychology; subscription $4; bimonthly; Wistar Institute of Anatomy, Philadelphia.

RECIPROCITY BETWEEN ARKANSAS AND LOUISIANA AND TEXAS

To the Editor:—Louisiana and Texas do not have reciprocal relations, but both of these states have reciprocal relations with Arkansas. Could not a physician holding a Louisiana license, who desires to practice in Texas, first obtain an Arkansas license through reciprocity with Louisiana and then in turn, through the reciprocal relations between Arkansas and Texas, obtain a Texas license?

W. P. H.

Answer.—Texas reciprocates with Arkansas and other states only on the basis of a written examination. In the instance cited it is improbable that Texas would accept the Arkansas license, since it would be based, not on the Arkansas examination, but on the Louisiana license.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 28, 1911.

Sherwood, John W., M.R.C., granted two months' leave of absence.

Casper, Joseph, lieutenant, ordered to remain on temporary duty at Fort Slocum, N. Y., to Feb. 15, 1911.

Pipes, Henry F., captain, granted four months' leave of absence, to take effect about June 1, 1911.

Howell, Park, captain, honorably discharged from the service of the United States.

Patterson, R. F., D.S., returned to Fort Sheridan, Ill., from detached duty and left Fort Thomas, Ky., Jan. 20, 1911.

Scott, Harold O., D.S., reports arrival at San Francisco and departure on one month and ten days' leave.

Mason, George L., D.S., returned to Fort Snelling, Minn., from temporary duty at Fort Assiniboine, Mont.

Mabee, James L., captain, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Huachuca, Ariz., for duty.

Mills, Frederick H., M.R.C., leave of absence extended one month.

Koyle, Fred. T., M.R.C., on abandonment of Fort Mansfield, R. I., to proceed to Fort H. G. Wright, N. Y., for station and duty.

Wing, F.F., D.S., reported for temporary duty at Fort Omaha, Neb.; left Fort Crook, Neb., same date.

Worthington, Joseph A., M.R.C., on arrival in the United States from the Philippine Islands will proceed to the presidio of San Francisco for duty at that station.

Cutliffe, William O., M.R.C., sick leave of absence extended two months.

Arthur, William H., lieut.-col., relieved from duty at Walter Reed General Hospital, effective at expiration of leave of absence, and directed to proceed to San Francisco for transportation to Manila, P. I., on transport sailing Aug. 5, 1911, and on arrival report in person to the commanding general, Philippines division, for assignment to duty.

Elliot, Henry W., M.R.C., left Fort McKinley, Maine, on ten days' leave of absence.

Blanchard, R. M., captain, left temporary duty at Fort Thomas, Ky., on thirty days' leave of absence with permission to apply for thirty days' extension.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 28, 1911.

Heiner, R. G., P. A. surgeon, detached from the Naval Academy and ordered to duty at the naval hospital, Annapolis, Md.

Ransdell, R. C., P. A. surgeon, detached from the *Texas* and ordered to the *Baltimore.*

U. S. Public Health and Marine-Hospital Service

Moore, Dunlop, P. A. surgeon, granted seven days' leave of absence from Jan. 18, 1911, under paragraph 191, Service Regulations.

Schereschewsky, J. W., P. A. surgeon, directed to report at Bureau on special temporary duty.

Collins, G. L., P. A. surgeon, granted eight days' leave of absence from Jan. 24, 1911.

McKeon, F. H., P. A. surgeon, directed to report to P. A. Surgeon M. W. Glover for duty in the medical examination of arriving aliens.

Simpson, Friench, asst.-surgeon, granted one month and fifteen days' leave of absence from Feb. 6, 1911.

Slaughter, A. W., acting asst. surgeon, granted seven days' leave of absence from Jan. 8, 1911, under paragraph 210, Service Regulations.

Board of medical officers convened to meet at the Bureau on call of the chairman for the purpose of prepa [illegible] of Diseases." Detail for the board: As [illegible] Trask, chairman; P. A. Surgeon Joseph [illegible] Joseph Schereschewsky, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

Legislatures are in session this winter in the following thirty-six states: Alabama, California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin and Wyoming. While many of the legislatures have been occupied so far in organization and the election of United States Senators, a number of bills of interest to physicians have been introduced relating to the practice of medicine, the regulation of public health matters, etc. As was to be expected, a number of bills providing for sectarian examining boards have been introduced. The following summary includes all of the bills that have been reported up to the time of going to press. In the case of bills of importance, further details, together with an abstract of the bill, will be given later.

ARKANSAS

Attorney-General Norwood is preparing a bill providing for a state board of health, carrying an annual appropriation of $10,000. The bill provides for a health commissioner, a bacteriologist, a bookkeeper and a stenographer. Members of the board of health are to be appointed by the governor and are to receive mileage and a per diem. The board is to have control over the health affairs of the state, outside of the cities which have their own health departments. An office in the state capital is provided for, with a laboratory for all work except water analysis, which will be done in the laboratories of the University of Arkansas as at present. The bill further provides for county and township boards of health. County commissioners are to receive one and one-half cents per capita on the population of the county. The bill also provides for registration of births, deaths, marriages and divorces. The *Pine Bluff* (Ark.) *Graphic* states that most of the legislators are in favor of the bill and that its passage is regarded as almost certain.

An optometry bill has also been introduced. This bill is similar to the optometry bills introduced into other states and is open to the same objections in that it permits those untrained in medicine to assume the care of patients suffering from diseases of the eye.

CALIFORNIA

No official reports have been received from California but the *San Francisco Examiner* states that a bill providing for a new state board of medical examiners is being prepared and will be introduced.

ILLINOIS

Senator Glackin, of Cook County, has introduced a bill (S. B. 5) providing for a state sanatorium for consumptives and appropriating $300,000 for this purpose.

A committee of the Chicago Woman's Club has prepared a bill to establish a commission for improving the condition of the adult blind in their homes. This bill provides for a state board of five persons, to be known as the Illinois Commission for the Blind, which shall act as a bureau of information and industrial aid, promote visits to the adult blind in their homes for the purpose of instruction, aid them to find employment, develop home industries for the blind, furnish them with material and tools, assist them in marketing their products, circulate books among the aged and helpless, or use any other methods it may deem expedient, except that it shall not undertake the permanent support or maintenance of any blind persons. The bill calls for the appropriation of $10,000.

The Chicago *Record-Herald* recently stated that the Chicago Homeopathic Medical Society had protested against a bill introduced, or to be introduced, to prohibit physicians from dispensing their own medicines.

INDIANA

The Indianapolis *Star* states that a bill to prohibit the sale of cocain in any form except on a physician's prescription, will shortly be introduced. The *Star* also states that the State Board of Health has formulated a legislative program which includes a weights and measures bill, a bill for medical inspection of school children, a cold storage bill, a sanitary school house bill, Pasteur Institute bill, a bill for the prevention of blindness in the new-born and amendments to the present pure food law. The bill for the medical inspection of school children, introduced by Senator McCarty, provides that medical inspection shall be optional with the school authorities but recommends inspection of the eyes and teeth and examination as to contagious diseases. This measure is endorsed by the State Board of Education.

IOWA

A bill has been introduced to create a health commission of three to take the place of the present Board of Health, this commission to be composed of a lawyer, a sanitary engineer and a physician. The three commissioners are to give their entire time to health administration. The usual bill establishing a state board of osteopathic examiners has been introduced.

LOUISIANA

A bill to prevent the unauthorized sale of habit-forming drugs has been introduced, strongly endorsed by the New Orleans *Picayune*. One of the strongest reasons urged for the passage of the bill is the prevalence of the cocain habit among negroes. District Attorney St. Clair Adams stated before the board of health that, according to police reports, there were from 20,000 to 25,000 negro cocain "fiends" in New Orleans and that morphin and cocain habitués were sent to the penitentiary or the insane asylum every week.

MAINE

A bill amending the medical practice act has been introduced, to establish a minimum preliminary educational requirement of a high school diploma or equivalent, giving the board power to revoke certificates, amending the definition of the practice of medicine, exempting all drugless methods of treatment and providing for the expenses of the board. An osteopathic bill has also been introduced.

MINNESOTA

The State Board of Health has approved a bill to be presented to the legislature, giving the board power to condemn school buildings as unsafe or unsanitary. The board has also approved a bill authorizing the state to pay one-third of the salary of a school health officer, who may give his whole time to the medical inspection of schools, and limiting the amount to be expended to $20,000 a year. The board also approved of a bill requiring licenses for all dogs, the income from the license tax to be used for the support of the Pasteur Institute.

MONTANA

The following bills have been introduced: a bill for a tuberculosis sanatorium; a bill for a pure food law; a bill to prohibit the sale of narcotics except on physicians' prescriptions; a bill providing for the medical examination of school children and two bills regulating dairy products.

NEBRASKA

A joint resolution has been introduced into the house, providing for the submission to the people of an amendment to the state constitution, creating a board of control of three members to have charge of all state institutions. The committee on medical legislation of the Nebraska State Medical Association has also recommended legislation providing suitable care for the indigent tuberculous and the tuberculous insane and for a commission of physicians to make reports to the courts on all matters connected with expert medical testimony. A bill has been introduced permitting the practice of so-called "Chiropractics," Christian Scientists and faith healers.

NEW HAMPSHIRE

A pure food bill, a bill appropriating $5,000 for a state sanatorium, a bill requiring practicing physicians to report all cases of tuberculosis, a bill prohibiting the manufacture and sale of cocain or any article containing cocain, and a bill amending the medical practice act have been introduced.

NORTH DAKOTA

A new medical practice act is being drafted which will place practitioners of all sects under the supervision of a single board.

OHIO

Bills have been introduced to amend the state pharmacy law, forbidding the sale of habit-forming drugs except on prescription of a legally qualified physician or dentist, regulating the itinerant vending of medicines, nostrums, etc.

RHODE ISLAND

The State Board of Health intends to introduce bills for the abolition of the public drinking cup and for the control of the pollution of streams. The Rhode Island Antituberculosis League has prepared a bill for the control of dairies and milk delivery.

SOUTH DAKOTA

Senator W. J. Maytum has introduced a bill to regulate itinerant physicians. A new board of health bill is being drafted to increase the power of the board and to provide an appropriation.

TENNESSEE

A bill has been introduced to amend the medical practice act by requiring a four years' course and prohibiting any person from practicing medicine under the name of any other person or firm. The term of members of the board of medical examiners is to be increased from four to six years. A vital statistics bill is being prepared along the lines of the model bill.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—First Weekly Meeting

General subject for the month: Surgical Infections *

The Nature of Infection

Due to: (1) Toxic infections, snake venoms, etc., (2) bacteria.

Infection may be (1) local, wound infections, or (2) general, toxemia, septicemia, pyemia.

Reaction to infection may be (1) local, or (2) general.

Local Reaction, Inflammation: Action of bacteria due to bacteria, their toxins or endotoxins.

Inflammation: (1) Disturbance of circulation with exudation; (a) congestion, (b) stasis, (c) leukocytosis, and emigration, (d) serous exudation, (e) diapedesis, (f) thrombosis. (2) Degenerative changes. Causes of necrosis and liquefaction. (3) Reparative changes: (a) cell-proliferation, (b) regeneration, (c) organization, (d) cicatrization.

Symptoms of Inflammation.

Terminations.

General Reaction: Rapidity of absorption from different kinds of wounds. Virulence of bacteria. Resistance of organism. Development of bactericidal substances in tissue fluids. Complement and intermediary bodies. Agglutinins, lysins, precipitins. Leukocytosis, significance, relation of leukocyte to complement. Ehrlich's side-chain theory. Antitoxic serums, bactericidal serums. Fever. Causes of fever. Relation of fever to absorption of toxins. Aseptic fever.

Infected Wounds: Simple infected wounds. Progressive phlegmonous infiltration. Acute purulent edema. *Gangrène foudroyante.*

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* Reference Books for the Seventh Month: Text-Books on Surgery, by Keen, Bryant and Buck, Lexer-Bevan, and others.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

Kansas: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

Nebraska: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

Alabama July Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, July 11-14, 1910. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 119, of whom 73 passed, including 2 osteopaths, and 46 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of Alabama	(1908) (18, 1910)	19
	(1909) (13, 1910)	14
	(1906) (2, 1910)	3
s and Surgeons	(1909)	1
rgeons, Chicago	(1902)	1
	(1909) (4, 1910)	5
ana	(1910)	2
	(1910)	1
	(1910)	2
of Phys. and Surg.	(1908)	1
College	(1907)	1
pital Medical College	(1905)	1
	(1909) (1910)	2
Jefferson Medical College	(1910)	2
University of Pennsylvania	(1908)	1
University of Nashville	(1900) (2, 1908) (2, 1909)	5
Vanderbilt University	(1910)	2
Memphis Hospital Medical College	(1910)	2
Universities of Nashville and Tennessee	(1910)	3
University of Virginia	(1909)	1
University of Amsterdam, Netherlands	(1901)	1
University of Edinburgh, Scotland	(1901)	1

FAILED

College	Year Grad.	Total No. Examined.
University of Alabama	(2, 1909) (6, 1910)	8
	(1907) (7, 1910)	8
rgeons, Chicago	(1902)	1
and Surgeons	(1910)	3
	(1910)	2
Tulane University of Louisiana	(1910)	1
Barnes Medical College	(1910)	1
Leonard Medical School	(1906) (6, 1910)	7
University of the South	(1907) (1908)	2
University of Tennessee	(1908)	2
Meharry Medical College	(1910)	[illegible]
Universities of Nashville and Tennessee	(1910)	1
Memphis Hospital Medical College	(1910)	4
Chattanooga Medical College	(1908) (1909)	2

Kansas October Report

Dr. H. A. Dykes, secretary of the State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 13, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 13, of whom 5 passed, 6 failed and 2 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Louisville	(1910)	79
St. Louis University	(1907) 93; (1908)	85
Kansas City Medical College	(1892)	80
University Medical College, Kansas City	(1910)	86

FAILED

College	Year Grad.	Per Cent.
Eclectic Medical University, Kansas City	(1904)	56
Kansas City Medical College	(1900) 70; (1904)	62
Kansas City Hahnemann Medical College	(1909)	67
Missouri Medical College, St. Louis	(1883)	64
University Medical College, Kansas City	(1909)	62

Texas November Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Palestine, Nov. 22-24, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 35, of whom 34 passed, including 1 osteopath, and 1 failed. The college and year of graduation for two candidates who passed were not obtained. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1909)	90.9
College of Med. and Surg., Physiomedical, Chicago	(1910)	80.2
Rush Medical College	(1897)	79
College of Phys. and Surg., Chicago..(1898) 84.3;	(1910)	85.7
Hahnemann Medical College and Hospital, Chicago	(1910)	91.2
Central College of Phys. and Surgs., Indianapolis	(1898)	90.8
University of Louisville	(1910)	80.8, 85.2
Tulane University of Louisville.....(1908) 77.4;	(1910)	85.6
Barnes Medical College	(1904)	75, 77
St. Louis College of Physicians and Surgeons	(1910)	77.3, 87.5
Medico-Chirurgical College, Philadelphia	(1910)	83.1
Woman's Medical College of Pennsylvania	(1910)	85.1
University of Tennessee..............(1891) 80.4;	(1906)	81.7
Meharry Medical College	(1908)	75
Memphis Hospital Medical College (1892) 76.9; (1901) 82.3; (1907) 84.3; (1910) 81.1.		
Vanderbilt University	(1909)	78.1
University of the South..............(1901) 79.5;	(1908)	76.8
Dallas Medical College	(1903)	77.4
Baylor University College of Medicine	(1910)	75
University of Texas	(1907)	88.9
Southwestern University Medical College, Dallas	(1910)	81.4

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1910)	64.7

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration in Medicine, reports the written examination held at Portland, Nov. 8-9, 1910. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 14, of whom 11 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine	(1910)	84
Baltimore Medical College	(1910)	92
Tufts College Medical School	(1910)	87, 88
College of Physicians and Surgeons, Boston	(1908)	77
Harvard Medical School..............(1909) 82;	(1910)	90
Hahnemann Medical Coll. and Hosp., Philadelphia	(1910)	77
University of Pennsylvania	(1910)	86
University of Vermont	(1909)	89
University of Toronto, Ontario	(1895)	91

FAILED

College	Year Grad.	Per Cent.
College of Phys. and Surg., Boston.....(1908) 70;	(1910)	77 *
Tufts College Medical School	(1909)	74

* Fell below the required percentage in certain branches.

Delaware December Report

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, Dec. 13-15, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
shington, D. C	(1910)	89.3
rg., Baltimore (1909) 83.8;	(1910)	79.6
	(1909)	84.2
Woman's Medical College of Pennsylvania	(1909)	88.5
Jefferson Medical College	(1906)	86.8
University of Pennsylvania	(1906)	89.5
Medico-Chirurgical Coll., Philadelphia.(1909) 75.9;	(1910)	79.2
Victoria University of Manchester, England	(1894)	89.8

FAILED

College	Year Grad.	Per Cent.
University of Maryland	(1910)	73.7
Royal University of Naples, Italy	(1905)	73.8

Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 15-17, 1910. The number of subjects examined in was 10; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 34, of whom 19 passed, including 1 osteopath, and 15 failed, including 2 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
College of Physicians and Surgeons, Chicago	(1884)	1
Chicago College of Medicine and Surgery	(1910)	1
University of Louisville..............(1905) (4,	1910)	5
Louisville and Hospital Medical College	(1908)	1
Kentucky School of Medicine	(1908)	1
Southwestern Homeo. Medical Coll. and Hosp	(1910)	1
University of Michigan, Homeopathic College	(1910)	1
University of Buffalo	(1900)	1
Eclectic Medical College, Cincinnati	(1910)	1
Cincinnati College of Medicine and Surgery	(1902)	1
Medical College of Ohio	(1909)	1
Hahnemann Med. Coll. and Hosp., Philadelphia	(1908)	1
Meharry Medical College	(1910)	2

FAILED

College	Year Grad.	Total No. Examined.
Kentucky School of Medicine...........(1901)	(1902)	2
University of Louisville.............(1909) (5,	1910)	6
Kentucky University	(1910)	1
Louisville National Medical College	(1910)	1
Eclectic Medical College, Cincinnati	(1910)	1
Meharry Medical College..............(1909)	(1910)	2

Maryland December Report

Dr. J. McP. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, Dec. 13-16, 1910. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 53, of whom 36 passed and 17 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C...(1907) 77;	(1910)	75
Atlanta School of Medicine	(1910)	95
University of Maryland (1908) 77; (1909) 75; (1910) 77, 78, 78, 79, 80, 82, 83.		
Woman's Medical College of Baltimore	(1909)	83
Johns Hopkins University (1901) 92; (1904) 90; (1907) 83, 93; (1908) 91; (1909) 89; (1910) 84.		
College of Phys. and Surg., Baltimore..(1903) 77;	(1910)	80
Baltimore Medical College	(1910)	81
Maryland Medical College	(1910)	79
University of Michigan, Dept. of Med. and Surg	(1898)	82
Columbia University, College of Phys. and Surg	(1908)	85
University of Pennsylvania (1909) 91; (1910) 78, 79, 82, 85.		
Jefferson Medical College	(1910)	85
Medico-Chirurgical College, Philadeplhia	(1910)	84
University of the South	(1909)	76
University of Virginia...............(1909) 81;	(1910)	77

FAILED

College	Year Grad.	Per Cent.
University of Georgia	(1909)	63
Louisville National Medical College	(1909)	54
University of Maryland...........(1909) 55, 66;	(1910)	69
Baltimore Medical College	(1910)	74
College of Physicians and Surgeons, Baltimore	(1910)	62
Maryland Medical College (1904) 58; (1906) 66; (1909) 60, 67; (1910) 32, 51, 63; (——)* 66.		
Leonard School of Medicine	(1907)	71
University of the South	(1909)	42

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
niversity	(1909)	W. Virginia
Washington, D. C.	(1891)	Virginia
	(1902)	Nebraska
University of Maryland	(1878)	Maryland
	(1907)	Virginia
Johns Hopkins University	(1905)	N. Carolina
Harvard Medical School	(1893)	Dist. Colum.
University of Pennsylvania	(1892)	Dist. Colum.
	(1898)	S. Carolina
Meharry Medical College	(1900)	Kentucky
Baylor University	(1907)	Texas
University of Virginia	(1901)	N. Carolina

* No year of graduation given.

Ohio December Report

Dr. George H. Matson, secretary of the State Medical Board of Ohio, reports the written examination held at Cincinnati, Dec. 6-8, 1910. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 23,, of whom 21 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C	(1910)	81.9
	(1903)	77.1
	(1908)	82.6
910) 75, 77, 81.6, 81.6.		
	(1910)	76.3
(1880) 76.9;	(1909)	78.3
Surg..(1903) 77.7;	(1910)	81
	(1894)	77.8
	(1909)	78.6
iladelphia	(1898)	82.5
Ontario	(1910)	80.5, 82
University of Helsingfors, Finland	(1903)	76.7
University of Berlin, Germany	(1908)	84.3
Royal University of Palermo, Italy	(1904)	76.5
Royal University of Pisa, Italy	(1909)	76.9

FAILED

College	Year Grad.	Per Cent.
Eclectic Medical College, Cincinnati..(1908) 69.3;	(1910)	55.5

Book Notices

THE MODERN TREATMENT OF ALCOHOLISM AND DRUG NARCOTISM. By C. A. McBride, M.D. Cloth. Price, $2. Pp. 376. New York: Rebman Co., 1910.

McBride believes that inebriety is a disease, and makes a good argument for the validity of his views. He admits that some who drink to excess do not have a craving; these he does not regard as inebriates; they are the ones who should be brought under moral influences to be reformed. The early chapter on the pathology of alcoholism is made up of quotations from Drs. Sims Woodhead, Hale White, Lauder Brunton and John R. Bradford and so may be considered authoritative.

McBride discusses, fully and well, the causes of inebriety and the conditions under which it arises. He says of Canada and such climates that the air is so stimulating that the desire for alcoholic drinks is not so great as in England, but that if they are used they are more acutely deleterious. The correctness of the first part of this statement is doubtful. The author has probably been misled by the customs of Canadians and Americans, who drink less wine in their homes than Europeans do—not, however, because of climate.

For purposes of prognosis and treatment the author classifies alcoholics as: (1) the constant drinker; (2) the periodical drinker; (3) the dipsomaniac; (4) the voluntary drinker; (5) mixed cases. The fourth class includes those who drink sometimes even to excess because others do, or as a "stunt," but who have no habit or craving for drink. They can stop whenever they are persuaded that it is best to do so. The term "dipsomaniac" he limits to those in whom there are outbreaks of mental excitement of a maniacal kind. He believes that "every dipsomaniac is insane, but the insanity is not sufficiently marked during the intervals to attract attention, and is apparent only when the patient is excited by alcohol." The other classes are readily understood from their names. Alcoholics of the fourth class do not need medicinal treatment. The others do. The dipsomaniac should be under restraint such as is needed by the insane. Alcoholics of the other classes are amenable to medicinal treatment. Various specific treatments which have been recommended are discussed. The treatment which the author uses is fully explained. In brief, it consists in giving hypodermic injections of strychnin 3 times daily, at first 1/60 of a grain, increased to 1/30 by the end of the first week and at the same time hypodermic injections of atropin are given, which are rapidly increased until the patient's tongue is made dry and the pupils dilated. A bitter mixture containing cinchona, gentian, rheum, capsicum and more atropin and strychnin is also given six times a day. During the first week, usually during the first few days, all taste for alcohol is lost. During the second week this treatment is continued, but during the third the injections of atropin are gradually diminished and finally stopped, and the capsicum is withdrawn from the mixture taken by the mouth. Thus modified, the treatment is continued during the fourth week. At the end of that time the atropin is withdrawn from the mixture and the latter is given four instead of six times daily. During the sixth week the injections of strychnin are reduced and stopped. At the beginning of the week the cinchona is also withdrawn. The author necessarily varies this treatment with the requirements of individuals. He does not minimize the value of the personality of the man administering treatment and of the value of suggestion, but he is convinced of the value and need of medicinal treatment.

Those who have had experience in the treatment of inebriates must feel skeptical about the value of this specific treatment, but no one reading the book will doubt that in the experienced hands of its author it will effect cures. His sincerity, clinical experience and success cannot be doubted.

The portion of the volume devoted to drug treatment is a small part of the whole. It is equally worthy of consideration.

PHYSICAL CHEMISTRY: ITS BEARING ON BIOLOGY AND MEDICINE. By James C. Philip, Ph.D., Assistant Professor in the Department of Chemistry, Imperial College of Science and Technology, London. Cloth. Price, $2.10 net. Pp. 312, with 23 illustrations. New York: Longmans, Green & Co., 1910.

The increasing utilization of physicochemical methods in solving biologic and physiologic problems gives promise of a successful future for this branch of science, and makes it necessary that a student of biologicochemical problems have a working knowledge of the fundamental principles and methods of physical chemistry. As the newer physiologic and biologic literature abounds in references to physical chemistry, it is difficult to comprehend the import of such work without at least a fundamental knowledge of the laws of physical chemistry.

In order to furnish the requisite knowledge to enable medical students and practitioners to follow modern research in the biologic fields, the author has produced this volume. It is well written, and, since it is made as simple as possible and all unnecessary mathematics have been dispensed with, the material should be in an easily assimilable form for those who have not specialized in the fields of higher mathematics and physics. Examples of phenomena are taken from the fields of biology, physiology and medicine to illustrate the principles of physical chemistry, and *vice versa*. It is a timely help for those who desire to keep up with the rapid development of the biologic sciences.

ANEMIA. By Obermedizinalrat Professor Dr. P. Ehrlich, Director of the Königl. Institut. für Experimentelle Therapie, Frankfurt a.-M., and Dr. A. Lazarus, Professor of the University of Berlin, Charlottenburg. Part I., Vol. I. Normal and Pathologic Histology of the Blood. Second Edition. Revised by Dr. A. Lazarus, and Dr. O. Naegeli, privat-docent, Zurich. Translated from the German by H. W. Armit, M.R.C.S. Cloth. Price, $4. Pp. 218, with illustrations. New York: Rebman Co., 1910.

It is more than ten years since the first edition of this part of "Anemia" was published by Ehrlich and Lazarus. During this time hematology has made many advances, mostly along lines indicated or in harmony with the views expressed in the first edition, while in some details, matters now present a somewhat different aspect from the one they presented ten years ago.

The new edition has been prepared by Prof. A. Lazarus, Ehrlich's original cooperator, and Privat-Docent O. Naegeli. The book still represents Ehrlich's school and Ehrlich's views. The translator has succeeded well in securing a readable English form. Chapters 1 and 2, by A. Lazarus, contain introductory matters, such as clinical methods of the examination of the blood and the morphology of blood. The third chapter, by O. Naegeli, considers the white blood-corpuscles—the histology and classification, origin, granules and theories, and presents also the subjects of leukocytosis and leukemia. Chapter 4, by A. Lazarus, deals with the blood-platelets. At the end of each chapter is a bibliography, the references in which are not given according to any uniform style or accepted form of abbreviation; thus, what is probably the *American Journal of Medical Sciences* is referred to as *Amer. Journ.*

There is no need for any recommendation of this book. Its value as representing the teachings of Ehrlich, the founder of modern hematology, is recognized at once. It may be pointed out, however, that Naegeli's discussion of the rôle of leukocytes in infection leaves much to be desired, the issues in some cases being confused. The colored plates are good.

THE DISEASES OF CHILDREN. By James F. Goodhart, M.D., Consulting Physician to the Evelina Hospital for Sick Children. Ninth Edition. Edited by George F. Still, M.D., Professor of Diseases of Children, King's College, London. Cloth. Price, $5. Pp. 931, with 34 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

With the exception of a few interpolations, this book might have been written a quarter of a century ago. In the chapters on nutrition and its disorders, there is not a single reference to metabolism.

To illustrate the antiquated character of the volume, a few instances from the chapters on infectious diseases are chosen. Tracheotomy is given preference over intubation, in the treatment of diphtheritic laryngeal stenosis; the author states also that intubation is "but seldom adapted to the exigencies of private practice." "We are inclined to doubt whether intubation will ultimately take rank as a generally serviceable measure in diphtheria." In the treatment of scarlet fever antiseptic inunctions (phenol or "oil eucalyptus supplied by Messrs. ——— & Son") are "insisted" on. "With this treatment the child need not be isolated" and even "the infected child may be allowed to sleep with a healthy child."

If this book reflects the current thought in pediatrics in England, it certainly does not that of the Continent or of this country.

A Guide to Reading in Social Ethics and Allied Subjects. Lists of Books and Articles Selected and Described for the Use of General Readers. By Teachers in Harvard University. Boards. Price, $1.25. Pp. 265. *Cambridge: Harvard University, 1910.*

This book is compiled to meet the needs, not of "a superficial reader nor yet a learned scholar," but of "an intelligent and serious-minded student." Some subjects are included which are of special interest to physicians, such as "Medical Aspects of Sociology," "Defectives," "Crime and Criminals," and "The Liquor Problem." The sensible plan on which the work is compiled, being applicable to bibliographies of other subjects, is worthy of mention. The general subject has been subdivided, and each subdivision has been allotted to an editor of special ability in that field, who has compiled, not an exhaustive, but a select bibliography, with critical comments, "not attempting a complete description or a final judgment, but as though answering the preliminary question of a student, 'What kind of book is this?'" As Professor Peabody says in the preface, "A perfect [that is, exhaustive] bibliography may justify pride in the compiler but may provoke despair in the reader." We commend this thought to the consideration of other compilers of bibliographies.

Phases of Evolution and Heredity. By David B. Hart, M.D., Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh. Cloth. Price, $2. Pp. 259. New York: Rebman Co., 1910.

This little volume discusses evolution and heredity in a popular style. While there is no dearth of books on this theme, most of them are too ponderous and ultrascientific and, consequently, fill one's library shelves, but usually remain unread. Such criticism cannot apply here. The book is divided into fourteen short chapters and a glossary of scientific terms, each chapter forming a rounded whole. The diction is entertaining and reminds one very strikingly of the familiar popular-science style created by the great Huxley. Respecting the subject-matter itself, we detect no inaccuracies and are surprised by several things not expected in a work of this kind. It may well be questioned why the chapters on "The Community of Bees," "A Modern Observation Hive," "The Evolution of the Honey-Bee and of Modern Bee Culture"—all very interesting in themselves—have been introduced. However, as the author shows great first-hand familiarity with bee-life, one rather enjoys reading about it.

The Science of Living, or the Art of Keeping Well. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1.50 net. Pp. 420. Chicago: A. C. McClurg & Co., 1910.

This popular treatise on hygiene, intended for a purpose similar to that for which Cohen wrote his work recently reviewed in these columns, is far different in its style and content. Both books have their place; Cohen was concise, Sadler is discursive. This work is almost a popular physiology; the illustrations and tabulations are numerous and good. The layman will be led to read further by the interestingly argumentative way in which the sweet reasonableness of proper living is urged. Sadler is most thoroughly in earnest; he comes very near to exaggeration at some points; for example, "sunlight . . . . is immediately fatal to the tubercle bacillus." But his abundant enthusiasm will be a tonic for the reader, and so we hesitate to criticize. The book is well worthy of being recommended for popular use.

Fractures and Their Treatment. By J. Hogarth Pringle, F.R.C.S. (Eng.), Glasgow. Cloth. Price, $5.50. Pp. 384, with 142 illustrations. New York: Oxford University Press, 1910.

This volume, profusely illustrated with photographs and skiagrams of the various pathologic conditions of fractures, together with their diagnoses and treatments, contains an account of the mechanism by which the different fractures are produced and of the methods of treatment possible to the average practitioner without hospital facilities, trained assistants and nurses. It also contains a bibliography which includes names of some of the classical works dealing with fractures, many of which give extensive lists of the writings on the particular phase under consideration. This book will appeal not only to the surgeon but also to the general practitioner and student, for through its logical arrangement concise and comprehensive information is readily found, giving the diagnostic points and treatment of each individual pathologic condition.

Urgent Surgery. By Felix Lejars, Professeur Agrégé à la Faculté de Médecine de Paris. Translated from the Sixth French Edition by William S. Dickie, F.R.C.S., Surgeon North Riding Infirmary, Middlesbrough. Vol. II. The Genito-Urinary Organs—the Rectum and Anus—the Strangulated Hernias—the Extremities. Cloth. Price, $7 net. Pp. 580, with 536 illustrations. New York: William Wood & Co., 1910.

The second volume of the English translation of this work includes sections on the urgent surgery of the genito-urinary organs, the rectum and anus, a separate section on strangulated hernias of the different varieties, and a final section on the extremities. This latter includes in addition to fractures, dislocations, amputations, crushing and other injuries, paragraphs on the suture of blood-vessels, nerves and tendons, beside many other subjects. While all surgery, perhaps, may be said to be urgent surgery once a case is diagnosed as a surgical one, yet the author has limited his subjects to those coming within the limits of urgent surgery in the strict sense.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., Clinical Professor of Otology in the Medico-Chirurgical College. Second Edition. Leather. Price, $2.50 net. Pp. 563, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The revision of this manual brings the information concerning these special topics down to date and affords the physician a reliable and practical working guide in the treatment of diseases of the nose, throat and ear. The section containing formulas of remedial agents, washes, sprays, gargles, ointments, etc., has been enlarged and includes a brief statement of the action of the various agents and their therapeutic application. While much space is given to the various operations recommended in the highly important middle-ear, mastoid and accessory sinus affections, the author does not neglect medicinal and other measures to be employed in the acute stages. The book is well illustrated and of a convenient size.

Atlas und Grundriss der Verbandlehre für Studierende und Aertze. Von Dr. Albert Hoffa, a. o. Professor an der Universität, Berlin. Nach des Verfassers Tod bearbeitet von Privatdozent Dr. Rudolf Grashey, München, Lehmann's Medizinische Handatlanten. Band XIII. Fourth Edition. Cloth. Price, 10 marks. Pp. 152, with 170 illustrations. München: J. F. Lehmanns Verlag, 1910.

The fourth edition of Hoffa's work has been revised and brought up to date by Dr. R. Grashey, instructor in the University of Munich. The first part of the work gives detailed instruction with reference to bandage materials and methods of application, and is followed by a collection of seventy-eight plates, illustrating the various methods employed for ordinary bandaging. The second part deals with special methods of bandaging, treatment of wounds, fractures, etc., and is illustrated by a collection of ninety-two plates. There are a number of illustrations incorporated in the text.

Die Hauptgrundgesetze der Epidemiologischen Typhus und Choleraforschung. Dargelegt on Dr. med. Friederich Wolter in Hamburg. Band. Paper. Price, 24 marks. Pp. 337, with illustrations. Munich: J. F. Lehmann, 1910.

This book is a laborious defense of an outworn creed, namely, the doctrine of a local predisposition to typhoid fever and cholera. Modern bacteriologic and epidemiologic studies have made such statistical compilations as the one before us seem antiquated and almost purposeless. There is little to be gained by such a one-sided treatment.

Care of the Patient. A Book for Nurses. By Alfred T. Hawes, M.D. Cloth. Price, $1 net. Pp. 173, with 6 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This book tells in a simple and concise way how to do practically everything that comes within the ordinary routine duties of the nurse in hospital and in private practice in caring for patients from the moment they come under her care until discharged. It is an excellent book for the beginner and will teach system and correct methods to those more advanced.

How to Cook for the Sick and Convalescent. Arranged for the Physician, Trained Nurse and Home Use. By Helena V. Sachse. Fourth Edition. Cloth. Price, $1.25 net. Pp 337. Philadelphia: J. B. Lippincott, 1910.

The present edition of this book has been enlarged by the addition of a chapter on the substitutes for cane sugar. The book should be useful not only to those who must prepare food for the sick and convalescent but also for housekeepers; the recipes are practical and the directions clearly stated.

Medicolegal

Law Requiring Exclusion of Unvaccinated Pupils from Schools Constitutional and Must be Enforced

The Court of Appeals, First District, California, in State Board of Health vs. Board of Trustees of Watsonville School, District of Santa Cruz County (110 Pac. R. 137) holds that it was error to sustain a demurrer to the plaintiff's petition for a writ of mandate to compel the defendant trustees to comply with the act of 1889, entitled "An act to encourage and provide for general vaccination in the state of California." That statute provides: "The trustees of the several common school districts in this state and boards of common school government in the several cities and towns are directed to exclude from the benefits of the common schools therein any child or any person who has not been vaccinated, until such time when such child or person shall be successfully vaccinated," etc.

The court says that it has no doubt as to the constitutionality of the act. The legislature must necessarily be the judge as to legislation under the police power for the public health and for the purpose of preventing the spread of contagious diseases, the means used to prevent such spread, and the diseases regarded as contagious. It is invested with a large discretion within the scope of its powers, which discretion cannot be controlled by the courts except in cases where such discretion has been plainly abused.

Nor does the court consider this statute repealed by the subsequent compulsory education act. The latter is not inconsistent with the former. The parents of children are compelled to send them to school under the latter act, but they must comply with the law as to having them vaccinated in case they desire to avail themselves of the privilege of sending them to the common schools.

The vaccination statute is not directory, but mandatory. It is the plain duty of the trustees, and they are directed by the express terms of the statute, to exclude from the public schools any child or person who has not been vaccinated. Until the child has been vaccinated he must be excluded from the schools. If the trustees could use their discretion, and of their own will at times exclude and at other times admit to the schools children who have not been vaccinated, or if the trustees could exclude some children and admit others, the law would be uncertain and of little value. It was never the intention under the terms of the act that the board of trustees should possess such discretion. By its terms all are to be excluded, and the exclusion is to continue as to all until they have complied with the law.

The duty devolves on the defendants by virtue of their office to exclude such children. They must obey and not question the law. They are not compelled to hold their respective offices as trustees; but while in office it is their duty, and the duty of each and every one of them, to see that the law is enforced, and this whether the law is popular or unpopular, or whether they believe in the vaccination of children or otherwise. The law having been passed by the people, it is the duty of the trustees and of all persons to obey it until it is repealed.

Cities May Require Annual Tuberculin Test and Authorize Summary Seizure and Destruction by Health Departments of Milk from Uninspected Cows

The Supreme Court of Minnesota, in Nelson vs. City of Minneapolis (127 N. W. R., 445), holds valid, as a police regulation, a city ordinance prohibiting the bringing into the city for sale, or offering for sale therein, of milk from cows not previously subjected to the tuberculin test and found free from disease, the test to be applied annually, and the health department being authorized to summarily seize and destroy milk from untested cows.

The court says that in this case the city council, duly authorized thereto by legislative grant, which was that it might prescribe the terms and conditions on which milk, cream and butter might be exposed for sale in the city, determined that the tuberculin test of cows was the most feasible and practicable method of insuring a pure milk supply. This involved a matter of legislative judgment and discretion, and necessarily a comparison with other methods designed to secure the same result, including the theory of pasteurization. It is probable that pasteurization, when placed on a practicable and workable basis, will be found superior to the annual tuberculin test; but the determination of that must be left to the legislative department.

It was urged that before destroying the milk the authorities should be required to ascertain whether it was in fact unwholesome and unfit for food, and that to permit them to destroy the same without regard to whether it was or was not free from disease germs authorized a taking of property for public use without compensation, and was not that due process of law guaranteed by the constitution. But the city council determined that the tuberculin test was a reasonable, and the most practicable, method of insuring purity in the milk brought into the city. To enforce the regulation the council had the power to impose such penalties as would render the regulation effective and serve the purpose intended. It provided, in addition to fine and imprisonment, a destruction of the condemned milk. The authorities sustain regulations of this character. It is in fact the only feasible method of preventing contaminated or unwholesome milk from reaching the citizens, and to enforce or compel a compliance with the ordinance. A mere fine or imprisonment of the offender would not prevent the milk reaching the consumers; but its destruction, when brought into the city, is effective for all purposes. This authority must be sustained, unless it is to be held as a matter of law that the city should either determine that the milk is in fact impure, or in the interests of the dairymen, establish and maintain a pasteurization plant, in which all milk brought into the city may be purified and rendered wholesome. But the dairymen and dealers in milk and cream, who persist in their refusal to comply with the inspection ordinance, which answers every purpose of the regulation, and entitles them to unrestricted entrance into the city with their milk, are in no position to urge the establishment of such a plant.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.

Association of American Medical Colleges, Chicago, February 27-28.

Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Jan. 6, 1911

The President, Dr. Charles B. Parker, in the Chair

Treatment of Heart Disease

Dr. L. F. Barker, Baltimore: The causes of heart failure are many, but, in general, the treatment resolves itself into heart protection and heart stimulation or exertion. In most cases we must resort to the former first. We have four general methods of protecting the overworked, weakened heart. The patient must be put to bed and have absolute rest. The more quickly the symptoms disappear after beginning rest, the better the prognosis. If more restful, the Dutch bed, which elevates the thighs and flexes the knees, may be used. If the patient is very dyspneic, unable to sleep, a hypodermic of morphin sulphate, every night, for three or four nights, may be of great value and cause the turning point in a broken compensation.

As to diet, food should be given in five small meals rather than in three large ones. It is not necessary to say that all food should be easily digestible. Liquids must be restricted, and it is often well to limit total liquids to 1.5 liters in twenty-four hours. In selected cases the Carroll method of giving twenty-eight ounces of milk only in twenty-four hours, for three days, may be tried. I have often seen severe cases improve, and greatly increased kidney activity result, even in spite of restricted liquid intake. If the patient is constipated, salines should be used in the morning. When the sufferer is cyanotic and very dyspneic, the right heart dilated, jugulars jumping, I have often found venesection to be of great value—removing from 200 to 300 c.c. of blood. Often the patient will get a good night's rest following this procedure. If there is a marked ascites or hydrothorax, the patient should be tapped. Of diuretics, there are several to select from: Theocin, grains 3 to 5, four times a day, for three or four days; theobromin-sodium salicylate grains 15, four times a day, may be tried. Many rely on the old-fashioned pill, containing mercury, squills and digitalis. Others frequently find calomel of value.

When the heart has had a start of several days protection, we can bring the principle of heart stimulation or exertion into play. Of the drugs increasing heart efficiency, digitalis stands first. Strophanthin is also an excellent remedy. Strophanthus itself is not to be recommended for use by the mouth as it is very irregular and frequently dangerous in its action. Other means of heart exertion to be employed are the carbon-dioxid baths as employed at Nauheim, and the principles of mechanotherapy. However, they are rather uncertain and only to be employed by one experienced in their use.

These are only the general principles of the treatment of heart disease and each case must be studied and individualized by itself. For example, in a case of heart-block we would be very careful in the use of digitalis, and in a case of fatty heart we would be quite likely to employ the principles of heart exertion first; rather than those of heart protection.

Dr. C. F. Hoover: In the last few years the study of heart action is viewed altogether different. In a given case it is often not so much a question of the hydraulics of the heart, e. g., there may be a marked deficiency in the mass movement of blood with a normal systolic and diastolic blood-pressure.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 28, 1910

The President, Dr. Henry Leffmann, in the Chair

Symptoms and Complications of Lobar Pneumonia

Dr. James M. Anders: While the mode of onset is characteristic in about 80 per cent. of the cases, about 20 per cent. begin insidiously. The latter often pursue a protracted course with slow defervescence, and are apt to show complications and sequelæ. Defervescence by lysis is more commonly observed at present than formerly, but they are unattended by a decided fall in the leukocyte count, while the reverse is true of the actual crisis. A high pulse-rate implies danger in pneumonia. Leukocytosis may be slight or absent in cases in which the struggle for life is lost. I have never observed leukopenia, but this may occur; and leukocytosis is also absent in cases in which the scene is dominated by a prior infection, such as typhoid fever and certain other conditions. It is important that an examination of the lungs be made in cases of mania a potu in which fever is present, since all other characteristic features may be in abeyance. The adhesive, rusty-colored sputum is a characteristic feature, but it is sometimes absent in the pneumonias occurring in the aged, in drunkards and in those showing marked toxemia. The physical signs yield evidence of great diagnostic importance. The value of systematic physical examination of the thorax, with a view to detecting consolidation when present in suspicious cases, is of the highest importance in subjects of emphysema and in the aged, in the acute infections, as well as in the commoner chronic diseases when fever develops. Certain signs may rarely arise in the opposite or uninvolved lung, such as impaired percussion-resonance, râles over the base, and to the fact that these are readily confused with actual consolidation. If practicable, blood-cultures should be undertaken in dubious cases. Pleurisy with more or less effusion complicates pneumonia in about 50 per cent of the cases. In at least 20 per cent. heart complications are present. Pleural effusion of moderate degree is extremely apt to be overlooked during life. Needling is essential in doubtful cases and also to distinguish between serum and pus. The special bacterial agent should always be isolated.

Among the commoner complications of pneumonia is empyema. In encapsulated empyema following pneumonia, a positive diagnosis is sometimes extremely difficult. Other means failing to prove the presence of pus, an exploratory operation should be done. In consequence of the toxemia or pneumonic septicemia, cardiac exhaustion may ensue without any marked histologic changes in either of the valves or the myocardium. Acute endocarditis is present in about 10 per cent. of the cases of pneumonia. It differs from other varieties: (1) in that three-fourths of the cases are ulcerative; (2) in that women show a higher incidence than men in the proportion of 2 to 1; (3) in that the aortic cusps are more commonly involved than the mitral. Pneumococcus endocarditis generally prevents the occurrence of the crisis. Pericarditis is a more frequent complication than endocarditis. Meningitis may be associated with endocarditis or occur independently as a complication, but this is comparatively rare. It can be diagnosed only by the presence of such features as bradycardia, paralyses and neuro-retinitis, or in the absence of definite symptoms, by lumbar puncture. Acute nephritis probably occurs in about 7 per cent. of pneumonic infections. Chronic nephritis is frequently found at autopsies in cases of pneumonia (70 per cent. of the cases at the Philadelphia Hospital), so that it may be regarded as one of the commonest foregoing diseases.

Diagnosis of Pneumonia

Dr. Augustus A. Eshner: In the majority of cases the diagnosis of pneumonia is easy. With a history of exposure to cold, followed by chill, fever, pain in the chest, dyspnea, rapid, shallow breathing, irritative cough, viscid mucoid hemorrhagic sputum, labial herpes, pneumonia will suggest itself, and the diagnosis will be confirmed by physical examination. Difficulty in the recognition of pneumonia will arise principally in atypical cases. Error is to be avoided by constant vigilance, with frequent physical exploration. Among the disorders from which pneumonia requires to be differentiated are acute pleurisy, pulmonary tuberculosis, bronchopneumonia, congestion of the lungs, infarction, abscess, gangrene, bronchiectasis, actinomycosis, syphilis, malignant disease, pericardial effusion, meningitis, typhoid fever.

Surgical Complications of Pneumonia

Dr. Charles F. Nassau: Pneumonia is not wholly a medical disease, as is generally believed. With enormous effusion, removal by operation is the only proper course. Careful attention should be given to the cardiac condition. In a true empyema the treatment is clear: incision, with or without resection of the rib, and drainage. Abscess or gangrene of the lung is one of the most difficult propositions confronting the medical man and surgeon. The treatment of either consists in rib resection and the insertion of a drainage tube. There is a sentiment against tapping suppurative collections in the pericardium, and I believe it is very much safer to make a small rib resection, expose the pericardium, when a needle can be introduced with comparative safety. In sixteen years I have seen very few cases of arthritis complicating pneumonia. It affects chiefly the knee and occurs most frequently in children. Absolute diagnosis rests solely on bacteriologic examination of the joint fluid. When the pain in pneumonia is referred to the abdomen, the pain and tenderness may be as pronounced as in acute abdominal disease. Diagnosis is so difficult that laparotomy may be done.

The Medical Treatment of Pneumonia

Dr. Arthur Newlin: Pneumonia patients should be isolated when possible. Two chief ends to be sought are the preservation of the patient's strength and the maintenance of his personal comfort. Local measures such as cupping or strapping are used for the control of pain. The use of baths is not advised in adults, but hot baths in children are frequently of value. Dyspnea and cyanosis are better controlled by cold air than by any other means. Milk remains the staple diet of pneumonia patients. The intestinal tract should be cleansed by calomel and salines. Such expectorants as creosote and ammonium chlorid are rarely necessary; respiratory stimulants such as strychnin, atropin and aromatic spirits of ammonia are useful. They should be administered as occasion indicates. Phlebotomy has its use when the consolidated lung offers a mechanical obstruction to the pulmonary circulation. For the cardiac weakness which results from fatigue and toxemia, such stimulants as strychnin, digitalis, aromatic spirits of ammonia, caffein, atropin and camphor may be used. Of these strychnin and camphor are probably the best. Alcohol and digitalis are sometimes of use. Although there are objections to alcohol, yet in the aged and to those addicted to the use of the drug it may be used with benefit. Digitalis, preferably the fat-free standardized tincture, is given hypodermically. For lowered blood-pressure, rapid pulse and tympanites, epinephrin, 1 c.c. of a 1 to 1,000 solution, hypodermically, may be employed.

Strophanthin is a powerful cardiac stimulant and is given intravenously in milligram doses, but should not be repeated within twenty-four hours. Vaccine and serum-therapy has as yet not proved to be efficacious in the treatment of pneumonia. The treatment should be one of conservatism, relying on fresh air, various local measures and the ability to give the right drug at the right moment with the avoidance of routine administration.

DISCUSSION

Dr. Henry D. Jump: Blood-pressure estimation in the prognosis and treatment of pneumonia is of far more value than the estimation of the respiratory rate. As has been pointed out, there is at a certain time in the toxic condition of pneumonia, a lowered blood-pressure accompanied by an accelerated pulse, which indicates a grave prognosis. This has seemed to me to offer a very distinct indication for therapeutic measures, and I am surprised that the observation has not attracted more attention in the treatment of pneumonia. Associated with this lowered tension and accelerated pulse we have, as a rule, a tympanites due to vasomotor paresis of vessels of the splanchnic. If this vasomotor paresis goes on to the greatest extent, the body becomes bled into its own vessels and active interference is called for.

Dr. J. Norman Henry: I have had satisfactory results with quinin, administered hypodermically, and the administration of salt solution by hypodermoclysis. In sixty-five cases of croupous pneumonia I have had ten deaths and some of these patients were moribund at the time the treatment was begun.

Dr. Hobart A. Hare: In the vast majority of instances pneumonia is not a primary frank disease. To ascertain the value of any line of treatment in pneumonia we would have to have statistics covering hundreds of cases and divide them up into innumerable groups. The matter of the lowered arterial pressure and accelerated pulse-rate is one of the greatest importance in that it tells you far ahead of time that danger is impending.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 21

1 Metastasis to the Nervous System from Cancer of the Stomach and Intestine. H. L. Elsner, Syracuse, N. Y.
2 *The Organic Basis of Neurasthenia. J. M. Swan and C. C. Sutter, Watkins, N. Y.
3 *Do Medical Schools Adequately Train Students for the Prevention of Infant [illegible] ork.
4 Significance of the [illegible] of Asiatic Cholera. A. J. [illegible]
5 *Asthma and Anaph[illegible] Pa.
6 Clinical Methods [illegible] ivity of the Heart. J. [illegible]
7 *The Use of Albu[illegible]
8 Phases of Asthen[illegible]
9 Case of Amebiasis [illegible] Island. J. B. Harvie and H. W. Carey, Troy, N. Y.

2. **Neurasthenia.**—The authors review the histories of fifty-one patients who were suffering from neurasthenia. In thirty-seven, the condition was dependent on organic disease (72.5 per cent.); in fourteen, it was apparently independent of organic disease (27.45 per cent.). Summarizing the cases the following is noted: Nineteen cases were due to cardiovascular disease; four to myocarditis with low blood-pressure; one to myocarditis with arteriosclerosis; ten to arteriosclerosis with high blood-pressure; four to beginning interstitial nephritis. Three cases were due to pulmonary disease; nine to gastrointestinal disease; three to cholecystitis, one to appendicitis, four to marked constipation, one to pyorrhea alveolaris. Four cases were postoperative; one case was due to scoliosis, and one to syphilis. Four cases were due to overwork; three to nervous shock. In seven cases the cause was undetermined. The authors emphasize the necessity for adopting the well-tried methods of examination that serve so well in plainly developed chronic disease as a routine measure in neurasthenics. Frequently one will discover underlying organic changes responsible for the disturbance in the nervous equilibrium. The relief of the former ought to be followed by relief of the latter. Such cases, they believe, should not be called neurasthenic; they should be called cardiac, arteriosclerotic, nephritic, toxic, etc.

3. Abstracted in The Journal, Dec. 24, 1910, p. 2260.

5. **Asthma and Anaphylaxis.**—The results of Barach's investigations into the anaphylactic origin of asthma are negative. If anaphylactin was present in the blood of his patient, it could not be demonstrated.

7. **Use of Albumin Milk.**—Albumin milk contains 3 per cent. proteid, 2.5 per cent. fat, from 1 to 1.5 per cent. milk sugar, from 0.4 to 0.5 per cent. mineral salts. The mixture contains 450 calories to each liter. One per cent. of malt sugar is added. Albumin milk is said by Abt to prevent abnormal fermentation in the intestinal tract on account (1) of the low content of easily fermentable sugar; (2) the low content of whey salts (the latter favor fermentation); and (3) the comparatively high proteid content (the latter counteracts fermentation). On standing, a precipitate is likely to form in the bottle containing the albumin milk. Before feeding, the bottle should be shaken well. The quantity to be fed should be warmed to the body temperature and again shaken (overheating is objectionable). The milk should be kept in a cool place. If thus taken care of it preserves its quality well, for at least five weeks.

Albumin milk is indicated, Abt states, in all infantile disorders which are associated with diarrhea, especially these cases in which breast milk is not obtainable. It is also valuable in cases of dyspepsia, entero-catarrh, cholera infantum (intoxication, Finkelstein), atrophy (decomposition, Finkelstein). As these diseases are accompanied or have been preceded by diarrheal attacks, the albumin milk is a valuable diet. The bowel movements soon improve, but the child does not at once gain in weight. As soon as the evacuations have improved, or have become less frequent, sugar in some form should be added. This should not occur too late; certainly at the end of eight days, if not before, sugar should have been added, even if the number and the appearance of the stools leave something to be desired. The albumin milk is given in increasing quantities until the stools have become less frequent. Saccharin may be added at first, so as to make the food more acceptable to the infant's taste. Children over three months of age may have starch in some form added to the albumin milk. The substance to be added is to be stirred up in a small quantity of water (2 ounces), boiled, and then added to the milk. The use of milk sugar or cane sugar is not advisable, since these lead readily to relapses. Much more certain in their action are the maltose preparations, or any of the dry malt preparations which do not contain milk in some form. At first one should add only a few grains of malt sugar to a 3-ounce mixture, but the quantity may be increased from day to day, particularly if the child does not increase in weight, adding 1 per cent. at a time. It is not advisable or necessary, at any time, to add more than 4 per cent. of sugar to the entire mixture. Children over 3 months will sometimes need the addition of starch in the form of flour; 2 or 3 drams of the latter may be added to an entire day's feeding.

Medical Record, New York

January 21

10 Memorial Address on Dr. Robert Koch. J. A. Wyeth, New York.
11 In Memory of Robert Koch. S. A. Knopf, New York.
12 Pylorospasm. M. Einhorn, New York.
13 Surgical Diseases of the Biliary Passages. A. B. Johnson, New York.
14 Oliver Wendell Holmes: His Work in Establishing the Contagious Nature of Puerperal Fever. T. W. Harvey, Orange, N. J.
15 Senile Debility. I. L. Nascher, New York.
16 *Ichthyol in Pulmonary Diseases. W. S. Barnes, New Haven, Conn.
17 Non-Parasitic Cyst of the Spleen; Splenectomy. C. G. Darling, Ann Arbor, Mich.

16. **Ichthyol in Pulmonary Diseases.**—It is believed by Barnes that ichthyol is a safe and valuable remedy in the treatment of such diseases of the respiratory tract as tuberculosis in the early stages, bronchitis in all its forms, and pleurisy. He says that ichthyol, when given in large doses, as high as 20 grains, three times a day, will produce a tendency toward frequent movements of the bowels. It diminishes the quantity of the discharge from the bronchial mucous membrane and hastens the return to a healthy condition, especially in the case of patients who have recovered from the acute bronchitis but still retain a cough, accompanied by profuse expectoration. Barnes believes that the drug is rapidly broken up in the stomach, and that it acts as a stimulant on the gastric mucous membrane, promoting a larger flow of gastric juice and increasing the power of digestion, thus aiding in the assimilation of food. Patients who have done well under ichthyol immediately begin to show a greater desire for food, and their appetites begin to increase with remarkable rapidity. In prescribing ichthyol for internal administration, Barnes' practice has been to give it in solution, and because of its objectionable taste, it is necessary to combine it with ordinary peppermint water, which makes a fairly palatable mixture. Sometimes he adds a small amount of fluid extract of licorice, together with peppermint water. It should be given after meals. A very convenient form of administration is to give it in the form of a tablet containing 5 grains.

Boston Medical and Surgical Journal

January 19

18 Sanatorium Treatment of Neurasthenia and the Need of a Colony Sanatorium for the Nervous Poor. F. K. Hallock, Cromwell, Conn.
19 Alimentary Gastric Hypersecretion and Gastric Atony. A. E. Austin, Boston.
20 *The Functional Spine. J. D. Adams, Boston.

20. **The Functional Spine.**—The symptoms of the condition described by Adams are as follows: Subjectively, the patient places his hand over the region of the lower dorsal and upper lumbar spine as indicating the area of pain. He describes it as being in the nature of an ache and a stiffness on attempting to straighten up from a stooping posture. He notices it most on getting up in the morning, it taking him some time to get limbered up, as he expresses it. Examination shows voluntary limitation of motion in the spine as evidenced by flexion in all directions being stopped by muscular spasm. Especially is this noticeable on forward and lateral bending, but hyperextension, where the spinal muscles are relaxed, is not limited. By forcing the patient to full forward and lateral bending, disregarding the pain, and, to a certain extent, overcoming the spasm, it will be noticed that the spine itself is capable of practically full motion in all directions; in other words, this is a "functional back," pure and simple. The one principle in the treatment of this class of cases is rest. This should be accompanied, if possible, by a method which does not incapacitate the patient for work. The second principle of treatment is that of counter-irritation, and the various agencies by which this may be produced are well-known. Adams reports twenty-five cases treated in dispensary and private practice. These cases were all routine, unselected; the occupation of the patients varied: teamsters, tailors, day laborers, namely, those men employed in a vocation necessitating constant use of the back. All presented the classical symptoms of pain, muscular spasm and limitation of motion in varying degrees of intensity. In all, the radiographs were negative. Five of the patients were treated three times a week with fly blisters, five with actual cautery, five with strapping, five with plaster jacket, and five with heat. The treatment was continued over a period of two months. Clinically the results showed conclusively that those treated by heat improved much more rapidly and efficiently than any of the other groups. In fact, at the end of two months all the patients were put on baking. The heat was applied to the bare skin at a temperature of 300 F., for a period of fifteen minutes. The result showed a marked hyperemia with excessive perspiration and with relief from pain. There were no burns and no untoward effects. The intervals of application were gradually lengthened in accordance with the diminution of symptoms. In nearly every case a light pelvic belt was applied as an adjunct to this treatment.

Lancet-Clinic, Cincinnati

January 21

21 Requirements and Limitations of Nitrous Oxid and Oxygen as a General Anesthetic in Major Surgery. C. K. Teter, Cleveland.
22 Cases Treated by Spengler's I. K. (Immune Bodies). W. F. Woolston, Chicago.
23 Foreign Bodies in the Esophagus in Children. W. E. Savage, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

January 13

24 Surgical Aspect of Goiter. R. P. Bell, Staunton, Va.
25 Syphilis and Nicotin as Factors in Cardiovascular Disease. A. G. Brown, Richmond.
26 The Part of Medical Men and Medical Societies in the Public Health Movement. C. R. Grandy, Norfolk.
27 Salvarsan. T. B. Leonard, Richmond.
28 Hygiene of the Eye and Throat. C. R. Dufour, Washington, D. C.

Journal of Experimental Medicine, Lancaster, Pa.

January

29 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
30 *Arteriovenous Anastomosis and the Mechanical Theory of Arteriosclerosis. I. Levin and J. H. Larkin, New York.
31 Heat-Sensitive Anticomplementary Bodies in Human Blood Serum. H. Zinsser and W. C. Johnson, New York.
32 Biochemical Studies on So-Called Syphilis Antigen. H. Noguchi and J. Bronfenbrenner, New York.
33 Variations in the Complement Activity and Fixability of Guinea-Pig Serum. H. Noguchi and J. Bronfenbrenner, New York.
34 *Comparative Merits of Various Complements and Amboceptors in Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
35 Interference of Inactive Serum and Egg-White in the Phenomenon of Complement Fixation. H. Noguchi and J. Bronfenbrenner, New York.
36 *Histologic Study of the Skin Lesions of Pellagra. F. B. Gurd, New Orleans.
37 *Pathogenesis of Icterus. G. H. Whipple and J. H. King, Baltimore.
38 Fibrinogen of the Blood as Influenced by the Liver Necrosis of Chloroform Poisoning. G. H. Whipple and S. H. Hurwitz, Baltimore.
39 Changes in the Proteolytic Enzymes and Anti-Enzymes of the Blood Serum Produced by Substances Which Cause Degenerative Changes in the Liver. E. L. Opie, B. I. Barker and A. R. Dochez, New York.

29. **Chemo-Immunologic Studies on Localized Infections.**—The experimental studies by Lamar show that the results may be reproduced in the treatment of local pneumococcus infections in human beings, particularly after an evacuation of an inflammatory exudate. He found that pneumococci treated with sodium oleate become more subject to autolysis, as is indicated both by the rapidity and the perfection of the process of self-digestion, and at the same time they become subject to serum-lysis. The inhibition of their activity, which the soaps ordinarily suffer in the presence of protein, can be prevented by the addition of an appropriate quantity of boric acid, so that suitable mixtures of serum, soap and boric acid can continue to exert a deleterious and solvent influence on the pneumococci, and the effect is greater when immune serum is employed in the mixtures. Infection can be prevented not only when the mixture of immune serum, soap and boric acid is added to the pneumococci before injection into the peritoneal cavity of small animals, but also when a therapeutic injection of a mixture of the three substances mentioned is made to follow the inoculation of normal, highly virulent diplococci. The limits of the activity of the therapeutic mixture are determined, in part by the

amount of protein to be overcome, and in part by the peculiarities of the infection occurring in highly susceptible animal species.

30. **Theory of Arteriosclerosis.**—From the author's investigation the conclusion must be drawn that arteriosclerosis cannot be induced artificially in a previously healthy blood-vessel by a change in the blood pressure alone, and that the thickening of the wall and the other changes noticed in such vessels is probably due to changes in the adventitia caused by the operative procedures.

34. **Serodiagnosis of Syphilis.**—Noguchi and Bronfenbrenner found that the maximum activity of an antihuman hemolytic amboceptor may be obtained by employing the homologous or heterologous complement, according to the variable relations existing between the species furnishing the amboceptor and the one supplying the complement. Thus, some amboceptors are best reactivated by the complement of the same species, while others may act most strongly when reactivated with the complements of certain suitable heterologous species. Certain species of animals (pig and sheep) yield sera which are comparatively poor in reactivating most varieties of antihuman amboceptors. The complements of these species deteriorate rapidly. For the fixation tests, guinea-pig complement is the most favorable. This complement is also the most active and durable of those which have been studied. The antihuman amboceptors produced in the rabbit and guinea-pig are also suitable. They are, moreover, very active and do not cause the phenomenon of non-fixation. The rabbit is the best animal for producing antihuman amboceptor, and the guinea-pig for supplying complement. The guinea-pig produces a good amboceptor, but its small size renders it second in choice.

36. **Skin Lesions of Pellagra.**—The histologic phenomena of the erythematous and bullous stage of pellagra, Gurd says, are those of a mild acute inflammatory reaction, together with a degeneration in the superficial layers of the corium. Following this degeneration, which involves not only the general connective tissue but the connective tissue of the blood-vessels, there is a reparative change, evidenced histologically by an increased cellularity of the corium and the presence of fibroblasts. The capillaries also are increased in number and much dilated. Apparently as a result of this increased vascularity of the corium, there is an increased proliferation of the epithelium resulting in a thickening of the epidermis. This increase in the thickness of the epithelial layer is especially marked in the prickle cells and the stratum granulosum. In the later stages, in an effort to secure a firm basement membrane, the epithelium is seen to dip down deeply into the rarefied connective tissue. About the blood-vessel, during the reactionary process, are found collections of lymphoid cells, a few plasma cells, but no mast cells or eosinophils. That the irritant producing the degeneration in the corium is sunlight in the presence of some predisposing factor, Gurd believes is suggested by the enormous increase in pigment formation in the epithelial cells and by the large number of chromatophores in the superficial layers of the corium. This pigmentation is autochthonous in both types of cell. There is no reason for believing that the pigment is formed in the cells of the corium and thence discharged into the epithelium, or that the reverse process takes place. The predisposing factor inducing the changes in the corium is, apparently, a lessened resistance of the epithelium to the violet and ultraviolet rays, due to some metabolic insufficiency on the part of the epithelial cells.

37. **Pathogenesis of Icterus.**—The experiments made by Whipple and King indicate that, in obstructive jaundice, the bile which escapes from the liver is absorbed by the hepatic capillaries and carried by the blood to the kidneys. The presence of a thoracic duct fistula influences in no way the development of icterus after total obstruction of the common bile duct. Bile pigments, sufficient to give a Salkowski test, may or may not appear in the lymph of the thoracic duct in such experiments, their appearance possibly depending on the rapidity of bile secretion and the amount of lymph flow. Chronic icterus developing in an animal with a thoracic duct fistula gives an interesting distribution of bile pigments in the body fluids. The lymph and pericardial fluid contain the same amount, which is much less than the content of bile pigment in the blood serum and urine. It seems clear that in both acute and chronic obstructive jaundice the lymphatic apparatus takes no essential or active part in the absorption of bile pigments from the liver. At best, the lymphatic system is a secondary factor in the mechanism of jaundice.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

January 15

40 Esophagoscopy and Bronchoscopy for Removal of Foreign Bodies. A. Schwyzer, St. Paul.
41 Economics of the Pure Milk Question. J. L. Coulter, Minneapolis.
42 Some Next Steps in Sanitation. J. T. Gerould, Minneapolis.

Maryland Medical Journal, Baltimore

January

43 *Medical and Surgical Aspects of Tumors. J. V. Bloodgood, Baltimore.
44 The Faucial Tonsil—Its Relation to Systemic Disease and the Results of Its Removal. S. Rosenheim, Baltimore.
45 Some Esophageal and Bronchoscopic Cases. R. H. Johnston, Baltimore.
46 Alcohol Injections in Treatment of Facial Neuralgia. I. J. Spear, Baltimore.
47 Sanctity of the Relations Between Physicians and Patients. E. L. Crutchfield, Baltimore.
48 Treatment of Diphtheria. E. Anderson, Rockville.

43. Also published in the *Wisconsin Medical Journal*, August, 1910; abstracted in The Journal, July 23, 1910, p. 44

Bulletin of the Johns Hopkins Hospital, Baltimore

January

49 *Urinary Hyperacidity and Its Relations to Neuritis, Neuralgia and Myalgia. T. R. Brown, Baltimore.
50 Analysis of the Course of Labor in 100 Occiput Posterior Presentations. C. B. Ingraham, Denver.
51 Poisoning by Vapors of "C.P." Benzol. C. Glaser, Baltimore.
52 *Viscosity of the Blood in Health and Disease. C. R. Austrian, Baltimore.
53 *Case of Sarcoma and Tuberculosis. J. P. Simonds, Indianapolis.
54 Carcinoma of the Right Fallopian Tube Readily Palpable Through the Abdomen. T. S. Cullen, Baltimore.

49. **Urinary Hyperacidity and Neuritis.**—It is shown by Brown that in a certain group of cases of neuritis, neuralgia and myalgia, which for want of a better term, and in the absence of definite or sufficient etiologic factors may be called idiopathic, there is a definite increase in the acid eliminated, although no attempt has been made to determine whether this is due to an increase in the acid phosphates, or in the organic acids. He believes, however, that the latter is more likely, and hopes subsequently to investigate this phase of the subject in detail. For want of a better explanation he suggests that this hyperacidity is probably the urinary expression of some abnormality or error in metabolism, probably having little or no relationship with the gastric digestion or the degree of acid in the gastric contents, but more probably due to metabolic disturbances arising lower in the digestive tract; and that the pain and other manifestations in the nerves or muscles affected are due to some circulating poison or toxin, the condition thus probably being a form of endogenous intoxication. Why certain groups of nerves or muscles should be selected in some cases, other groups in other cases, he is unable to say, though in all probability there has been something in the past history of the patient as trauma, exposure to cold, etc., which has lowered the resistance of the especial nerve or muscle affected. Finally, it seems certain that in some patients the insistence on a simple dietary and copious water drinking and, most important of all, the administration of alkalies in sufficient amount to reduce the acidity of the urine to normal, is followed by marked amelioration of symptoms; and in a few by their complete disappearance without the aid of other remedial agents.

52. **Viscosity of the Blood in Health and Disease.**—Austrian found that the viscosity of the blood and of the plasma is reduced in anemias, either primary or secondary. With regeneration of the blood, normal values are restored. In leukemia there is hypoviscosity of the blood with hyperviscosity of the plasma. Leukocythemia may explain the hyperviscosity of the blood, which is found in a few cases. The viscosity of the blood and of the plasma is increased in polycythemia. Hypo-

viscosity of the blood and hyperviscosity of the plasma is almost constant in cases of nephritis; the former being due to the anemia, the latter to retained products of metabolism. Though in many instances hypoviscosity occurs in cases with hypertension, this interrelation is often absent. In cardiac disease without edema, no constant change in the viscosity is to be found, the coefficient apparently varying with the anemia and the carbon dioxid content of the blood. In cases with hydremia, there is hypoviscosity of the plasma. In diabetes mellitus, the viscosity of the blood and of the plasma is increased, in many cases probably the result of concentration of the blood, due to polyuria, of hyperglycemia and of lipemia. In icterus there is generally increased viscosity of the blood and plasma, probably the result of cholemia. In typhoid, the viscosity varies with anemia, is increased by hydrotherapy, and apparently is uninfluenced by diet. The $\frac{(Hb)}{V}$ quotient is more often decreased than increased. In pneumonia the viscosity is generally above normal due to cyanosis and salt retention. Here, too, the $\frac{(Hb)}{V}$ quotient is low. In malaria the viscosity of the blood is usually normal or subnormal, rarely above normal. The viscosity of the plasma is normal or increased, the last as a result of hemoglobinemia. In no disease studied could a pathognomonic alteration in the viscosity of the blood be demonstrated.

53. *Sarcoma and Tuberculosis.—The following are suggested by Simonds as possible reasons why the two lesions are not more frequently found associated:* (1) The age incidence of the two diseases is not quite the same. Sarcoma and tuberculosis affect all ages, but the former is more frequent before 20 and the latter after that age. (2) The rapidly fatal course of a sarcoma may attract attention to itself so completely that the presence of a mild tuberculosis would not be recognized clinically.

Colorado Medicine, Denver

January

55 The Pancreas; Anatomy and Experimental Pathology. R. W. Corwin, Pueblo.
56 Pathology of Pancreatitis. R. C. Whitman, Boulder.
57 Acute Pancreatitis. A. R. Peebles, Boulder.
58 Chronic Pancreatitis. W. Senger, Pueblo.
59 Surgery of the Pancreas. W. A. Jayne, Denver.
60 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
61 Operative Treatment of Hemorrhoids. H. Heath, Denver.

Journal of Ophthalmology and Oto-Laryngology, Chicago

January

62 Twitching of the Orbicularis Palpebrarum Successfully Treated with Calcium Chlorid. T. C. Burnett, Berkeley, Cal.
63 Some Unusual Magnet Cases. W. A. Fisher, Chicago.
64 Cysts of the Antrum of Highmore. J. R. Fletcher, Chicago.

Journal of the Delaware State Medical Society, Wilmington

January

65 Ideals in Medicine. P. M. Downs, Dover.
66 Erysipelas Treated with Streptococcic Bacterins. A. Robin, Wilmington.
67 Chronic Non-Malignant Disease of the Tonsils. J. A. Ellegood, Wilmington.

Surgery, Gynecology and Obstetrics, Chicago

January

68 *Stereoscopic Radiography as an Aid to the Surgeon. E. G. Beck, Chicago.
69 Cancer of the Uterus and Its Cure by the Radical Abdominal Operation. R. Peterson, Ann Arbor, Mich.
70 Kidney Displacements and Dystocia. P. Willson, Washington, D. C.
71 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
72 *Best Method of Exposing the Interior of the Bladder in Suprapubic Operations. H. A. Kelly, Baltimore.
73 Significance of the Lane Kink of the Ileum. F. H. Martin, Chicago.
74 *Hemorrhage of the New-Born Infant; Treatment by Direct Transfusion of Blood. V. D. Lespinasse and G. C. Fisher, Chicago.
75 *Experiments on the Renal Artery. V. D. Lespinasse, G. C. Fisher and J. A. Wolfer, Chicago.
76 *Treatment of Painful Feet. J. L. Porter, Chicago.
77 Acute Free Suppurative Peritonitis. J. Halpenny and J. Gorrell, Winnipeg.
78 *Value of Sulphonephthalein in Estimating the Functional Efficiency of the Kidneys. C. Goodman and L. Kristeller, New York.
79 *Pneumatic Rupture of the Intestine; A New Type of Industrial Accident. E. W. Andrews, Chicago.
80 A Malignant Lymphoma of the Small Intestine. C. L. Scudder, Boston.
81 The Roux Operation in Dilatation of the Stomach. R. E. Balch, Kalamazoo, Mich.
82 Splints and Braces. W. G. Stern,
83 Stitch. J. J. Buchanan, Pittsburg, Pa.
84 Bone Wiring with Picture Wire. J. Schwinn, Wheeling, W. Va.
85 Thrombosis Postabortum of Left Ovarian Vein; Hysterectomy; Death from Continued Thrombophlebitis. R. T. Frank, New York.
86 *Modification of Usual Technic in Delivery of the First Arm in Podalic Version or Breech Presentation. D. C. Guffey, Kansas City, Mo.

68. Abstracted in The Journal, Oct. 29, 1910, p. 1584.

72. **Best Method of Exposing Interior of Bladder.**—In the method described by Kelly, the patient is put in the Trendelenburg posture, after first emptying and cleaning out the bladder, and introducing a mushroom catheter large enough to fill the urethra. A semilunar incision is made through the skin and fat of the lower abdomen about one inch above the symphysis pubis, with the concavity toward the umbilicus and about six inches long. The small bleeding vessels are controlled. The dissection of the upper skin and flap away from the deeper tissues is next made, when the deep fasciæ overlying the recti muscles and the adjacent oblique muscles out beyond the semilunar line are clearly exposed. Next the deep fasciæ are divided, also from side to side, without cutting any of the underlying muscular tissues. The fasciæ are then freed from the muscles with the blunt dissection. To effect this detachment it is, as a rule, only necessary to push the gloved finger up between the muscles and fasciæ; in the median line, however, the detachment must be made by means of scissors or a knife. When the loosened fasciæ have been drawn up and down, the underlying flaccid recti muscle bellies are exposed and easily retracted to the right and left, and this affords an extraordinary avenue of approach to all the tissues lying between the peritoneum (seen as a roll in the upper part of the wound near the point of the forceps lying across the abdomen) and the symphysis pubis. An inflating rubber bulb is now attached to the mushroom catheter in the bladder and squeezed so as to fill the bladder with air and to bring it up into the wound. The empty bladder is then caught by two guy sutures and incised in a transverse direction between them. If the opening is carefully made, there need be no contamination, as the bladder is held up by the guy sutures and will not spill its contents into the wound. As soon as the bladder is cut into, the opening is enlarged as much as may be necessary from side to side. The base of the bladder is brought perfectly into view and is easily accessible for all operative procedures. After completing whatever operation the circumstances of the case may demand, the operator closes the bladder by such method as he prefers, with or without drainage, taking care to utilize the perivesical fasciæ in the outermost row of sutures, he closes the abdominal wall down to the little suprapubic drain, if one is called for. By first uniting the recti with catgut and then uniting the deep fasciæ of the abdominal wall, leaving room in most cases for a small drain in the median line, the operation is completed.

74. **Hemorrhage of New-Born Infants.**—A review of the literature and the observation of one case have convinced the authors that direct transfusion of blood is the ideal treatment for hemorrhage of the new-born; it meets and overcomes in an ideal manner the three chief indications: hemorrhage, anemia and infection. Transfusion checks the hemorrhage at once and cures the acute anemia. Direct transfusion of blood fills the baby's veins with a plasma that is more resistant to infections than the original plasma. In the cases without syphilitic taint, direct transfusion of blood is an absolute specific. It is best performed early, but it is never too late, and the operation should be tried in every case before the child dies.

75. **Experiments on the Renal Artery.**—The technic of this method of vessel anastomosis was published in The Journal, Nov. 19, 1910, p. 1785.

76. **Treatment of Painful Feet.**—The four essentials mentioned by Porter are rest, supination, support and exercise.

In addition to these, he says, operation may be necessary, as in cases with exostoses or contracted tendons, but whatever be the condition under treatment, if the predominating symptom is pain, the first four procedures are essential.

78. **Sulphonephthalein in Estimating Kidney Function.**—According to Goodman and Kristeller phenolsulphonephthalein lends itself to accurate colorimetric measurement. The drug does not readily decompose in solution and can be sterilized by boiling. The dose required is small, 1 c.c. of solution containing 0.006 gm. of the dye. The injection is painless, and is not followed by irritation if the solution is sufficiently alkalin. It is excreted entirely by the kidneys and can be demonstrated in the urine in from three to ten minutes after the subcutaneous injection. From 50 to 70 per cent. is excreted during the first two hours. The quantity of dye recovered in a specimen within a given time is not influenced by the volume of urine. The presence of pus, phosphates, bile and indican does not interfere with the colorimetric estimation of this drug.

79. **Pneumatic Rupture of the Intestine.**—Fifteen cases are reported by Andrews in which compressed air caused an intestinal rupture. One of these cases was observed by the author; the others were collected by him through correspondence with other observers. The sigmoid colon is the viscus usually burst. Prompt evacuation of the air by emergency puncture and early laparotomy offer the only chance of saving life after this injury. Andrews warns against the dangers of practical joking or hazing with the air nozzle or even the careless use in dusting clothing.

86. **Podalic Version or Breech Presentation.**—The method proposed by Guffey consists in the delivery of the arm at the same time the body is delivered. When the feet (or the foot, if desired) have been delivered at the vulva, one hand of the operator holds them while the other is introduced into the uterine cavity and an arm seized, preferably the right, since the bringing of this arm into the left sacroiliac fossa will cause the head to engage in the more desirable right oblique with the occiput anterior. The hand of the child is then brought into the vagina and traction is made on it at the same time as on the feet or body. The hand of the operator is not removed from the vagina until the breech presents at the vulva or is actually born. As the body is grasped by the outspread hands the arm is included. The body with the first shoulder and arm is delivered, not more than one minute being required for this portion of the delivery. The second arm and the head are delivered by the usual method. The proposed method has been used by Guffey in ten cases: eight podalic versions and two breech presentations. The disadvantages of this method are said to be (1) the added risk of infection from the introduction or reintroduction of the hand into the uterine cavity; (2) the inability to introduce the hand into the uterine cavity; (3) the size of the operator's hand. The advantages of the method are: (1) much valuable time is saved; (2) lacerations of importance are less likely to occur; (3) fractures of the humerus or clavicle will be less likely to occur; (4) if cervical dilatation is not complete it may be completed manually when the hand is passed in for the arm.

Kentucky Medical Journal, Bowling Green

January 1

87 Present Status of Surgery of the Thoracic Cavity, Experimental and Applied. W. E. Senour, Bellevue.
88 *Indications and Technic of Cerebral Decompression. E. S. Allen, Louisville.
89 *Fracture of the Base of the Skull. D. C. Donan, Horse Cave.
90 *Intracranial Complications of Otitis Media. G. C. Hall, Louisville.
91 Cancer of Breast—Diagnosis and Treatment. J. T. Reddick, Paducah.
92 *Cancer of the Uterus. W. H. Wathen, Louisville.
93 *Diagnosis and Treatment of Cancer of the Gastro-Intestinal Tract. J. H. Blackburn, Bowling Green.
94 Cancer of the Urogenital Tract; Diagnosis and Treatment. C. L. Wheeler, Lexington.
95 *Inguinal Hernia. B. F. Van Meter, Lexington.
96 Diagnosis and Treatment of Enterocolitis in the Adult. E. A. Stevens, Mayfield.
97 *Neurasthenia. W. F. Boggess, Louisville.
98 Popliteal Aneurysm with Report of Matas Operation. J. R. Murnan, Covington.
99 *Family Physician Refracting as a Factor in Medical Practice, and Its Promotion During 1910. L. Connor, Detroit.

88, 89, 90, 92, 93, 95, 97. Abstracted in THE JOURNAL, Oct. 22, 1910, pp. 1493-1495.

99. Abstracted in THE JOURNAL, April 16, 1910, p. 1333.

Northwest Medicine, Seattle

January

100 *Bladder Sequelæ of Hysterectomy and Salpingo-Oöphorectomy. G. S. Peterkin, Seattle.
101 Early Diagnosis of Pulmonary Tuberculosis. R. W. Matson, Portland, Ore.

100. **Bladder Sequelæ of Hysterectomy.**—Within one year, eleven women have been referred to Peterkin because of urinary symptoms—frequent and painful urination, etc. Six patients had had hysterectomies; all had cystoceles. Two patients had never borne children so that in each the perineum was intact. Of the four remaining, only one showed a perfect repair of the perineum and all four stated that attempt at repair had been made previous to the hysterectomies. Four of the six hysterectomies had been vaginal. Peterkin concludes that vaginal hysterectomy should be considered an antiquated operation, for proper care cannot be given to the support of the bladder and thus cystocele prevented. Had the operators at the time of the operations given proper care to the bladder, cystocele would not have occurred, requiring a secondary surgical operation. Because hysterectomy is performed, there is no reason why perineal tears should not be repaired. Cystocele was the cause of the urinary symptoms complained of in these cases. Salpingectomy and oöphorectomy Peterkin regards as scientific operations only when they aim to leave the pelvic viscera in a normal position, and he also states that the man who performs nephropexy, without repair of the pelvic viscera when prolapse exists, is not a surgeon but an operator.

Journal of the Missouri State Medical Association, St. Louis

January

102 The Internal Splint in the Treatment of Fractures. H. E. Pearse, Kansas City, Mo.
103 Roentgen-Ray Localization of Foreign Bodies. R. D. Carman, St. Louis.
104 Refraction. J. W. Sherer, Kansas City, Mo.
105 Berck-Sur-Mer: A City of Hospitals for the Treatment of Bone Tuberculosis. A. E. Horwitz, St. Louis.
106 Intestinal Obstruction from Appendiceal Adhesions. C. R. Dudley, St. Louis.
107 Hypnotism as a Therapeutic Agent. J. M. Bradley, St. Louis.
108 Chronic Mastoiditis and Cholesteatoma. I. D. Kelley, St. Louis.
109 The Bladder in Inguinal and Femoral Hernias. W. T. Coughlin, St. Louis.

Texas State Journal of Medicine, Fort Worth

January

110 *Relation of Bovine to Human Tuberculosis from a Public Health Viewpoint. W. S. Carter, Galveston.
111 Comparison of the Morphologic and Cultural Characteristics of the Human and Bovine Types of Tubercle Bacilli. J. J. Terrill, Galveston.
112 Relative Importance of the Infection and Transmission of Bovine and Human Tuberculosis to Public Health. W. R. Howard, Fort Worth.
113 The Microscope in Tuberculosis. R. B. Leavell, San Angelo.

110. **Relation of Bovine to Human Tuberculosis.**—Carter holds that from experiments, as well as statistics, one is not justified in assuming that primary pulmonary tuberculosis is caused by bacilli that have been absorbed from the intestine. On the contrary, it is highly improbable that such is the case, for as yet, the bacilli of bovine type have never been recovered from the lesions of primary tuberculosis of the lungs in man and they have only been found in the sputum of two or three isolated instances, which were not free from some criticism. Bacilli of the bovine type have been recovered from a considerable number of cervical and mesenteric lymph glands in children and from the lungs in some cases of generalized tuberculosis in children. In these latter cases the resistance might have been slight, or there might have been an invasion by unusual numbers of bacilli of high virulence. However, he says our efforts should be directed chiefly against the infection from man to man, but that is no reason for neglecting the less frequent infection from cattle. Even if no more than 1 or 2 per cent. of the fatal cases of tuberculosis in man are caused by bacilli of the bovine type, that

cannot be considered a negligible quantity. The non-fatal cases of surgical tuberculosis in children must be taken into consideration. All the efforts that have been made to prevent the use of the milk and butter from tuberculous cattle have been justified, as public health measures, and should be continued. We should not, however, neglect any measures which can prevent infection by inhalation. All phophylactic measures that have been taken to prevent the spread of bovine tuberculosis among cattle have also been warranted from an economic standpoint alone, without any reference to the public health. It is perhaps impossible to completely eradicate bovine tuberculosis, but all tuberculous cattle should be eliminated from dairy herds. This could be done by systematically testing all dairy cattle with tuberculin and branding those which give a positive reaction. These cows could probably be used as beef cattle with safety, provided all tuberculous tissues are removed and all advanced cases are excluded. This seems to be a much safer plan than to use the milk for butter-making after pasteurization. Pasteurization at the diary is often not done efficiently and most of the butter is consumed without subjecting it to a temperature which would kill tubercle bacilli. In the absence of dairy inspection and the testing of milch cows by tuberculin, the only certain way of preventing infection by bovine tubercle bacilli is the pasteurization of the milk. This should be done by the individual consumer, rather than trust to the uncertain pasteurization by dairymen.

Illinois Medical Journal, Springfield

January

114 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
115 *Joint Diseases from the Orthopedic Standpoint. J. Ridlon, Chicago.
116 *Neurologic Features in Some Joint Lesions. A. Church, Chicago.
117 *Bacteriology and Pathology of Arthritis. E. E. Irons, Chicago.
118 Importance of Medical Organization in the Diffusion of Medical Knowledge and the Promotion of Ethical Relations Among Physicians. J. W. Smith, Bloomington.
119 [illegible] Infancy and Early Childhood. [illegible]
120 *Skull Fracture. F. C. Schurmeier, Elgin.
121 *Symptoms and Treatment of Exophthalmic Goiter. C. C. Rogers, Chicago.
122 Superstitions of the Medical Profession in Regard to Contagious Diseases. J. E. Stubbs, Chicago.
123 Pleurisy from the Medical Standpoint. T. E. Macauley, Elgin.
124 Edema of the Prostate. G. Kollscher and H. Kraus, Chicago.

115, 116, 120 and 121. Abstracted in THE JOURNAL, June 4, 1910, pp. 1892 and 1893.

117. Abstracted in THE JOURNAL, May 28, 1910, p. 1808.

Journal of Cutaneous Diseases, New York

January

125 Nodular Tuberculosis of the Hypoderm. G. W. Wende, Buffalo, N. Y.
126 Mycosis Fungoides. L. G. Pardee and F. R. Zeit, Chicago.
127 *An Unusual Case of Tinea Versicolor. E. L. McEwen, Chicago.

127. **Tinea Versicolor.**—The patient in this case was a man, aged 27, with incipient tuberculosis of the lungs. The skin eruption had been present twelve years. It had never disappeared and there had been no recent treatment. Subjective symptoms were absent. The parts involved were the back from the shoulder to the buttocks, the chest and upper portion of the abdomen, the infra-axillary regions, the arms, especially the outer aspects, and the upper portions of the forearms. In places on the arms and chest the appearance was quite typical of tinea versicolor; various sized areas, non-elevated, of irregular outline, brownish in color, slightly furfuraceous. Between these areas and on the other parts affected, especially the back, the lesions were discrete, flat-topped papules, reddish-brown in color, hemp-seed to split-pea in size, follicular in location, usually pierced by a hair. The skin between the papules was normal. The elevation was distinct and could readily be seen with the eye and felt by the palpating finger. The impression given by a superficial examination of the skin was that a lichenoid follicular inflammation was present. The lesions of pityriasis rubra pilaris especially were suggested. The papules, however, could be removed with a curette; the skin beneath appeared pale and non-inflammatory, and the debris so removed showed under the microscope luxurious masses of the *Microsporon furfur*.

United States Naval Medical Bulletin, Washington, D. C.

January

128 Diphtheria Prophylaxis in the Navy. C. S. Butler.
129 Salvarsan. R. Spear.
130 Diagnostic Methods in Otology Applicable to the Naval Service. G. B. Trible.
131 *Bier's Hyperemia in Acute Gonorrheal Arthritis. H. F. Strine.
132 Mental Examination of Candidates for Enlistment in the Navy and Marine Corps. H. Butts.
133 Recent Outbreak of Cholera in Italy. C. J. Holeman.
134 United States National Museum in Its Relation to Other Government Scientific Collections. P. E. Garrison.
135 A Sanitary Garbage-Can Holder. H. C. Kellers.
136 *The Blanket Splint. F. X. Koltes.
137 Four Transfusions by the Vein-to-Vein Method with Curved Glass T[illegible]
138 Bilateral [illegible] with Bilateral Undescended [illegible]
139 Larvæ in the Deep Urethra and Bladder. H. F. Strine.
140 An Extensive Razor Wound of the Throat. W. G. Farwell.
141 Two Cases of Heat Cramps on U. S. S. *Charleston*. H. A. May.
142 Fatigue and Exhaustion in the Fireroom. F. G. Abeken.
143 A Case of Diabetes Mellitus. A. C. Stanley.
144 Sciatica Incident to Physical Test. J. A. B. Sinclair.
145 Poisoning from Injection of Bismuth Paste. C. E. Camerer.

131. **Biers' Method of Treatment in Acute Gonorrheal Arthritis.**—When properly applied and controlled, Strine finds that Bier's treatment of joints acutely involved by gonorrheal infection produces definite beneficial results. Relief of symptoms is striking, the disease is cut short, and permanent damage to the joint is prevented. The hyperemia produced must be intense. Of course, the pulse must not be obliterated. Usually the fault lies in not sufficiently obstructing the return circulation. If the edema at any time becomes too pronounced, or signs of blocked circulation appear, remove the bandage, elevate the limb for one hour, then replace the bandage. Instruct the patient to test frequently the temperature of his hand or foot, as the case may be, and keep him under observation.

136. **The Blanket Splint.**—This improved appliance is made as follows: Depending on their thickness, two or three blankets are folded in such a way as to form a strip, the width of which corresponds to the length of the intended splint (if for fractured leg, the distance from 4 inches below the heel to 6 inches above the knee). The strip is rolled from both ends about pieces of broom handle which serve to give rigidity, the rolls meeting in the center and being of equal diameter. The apparatus is turned over, the rolls separated a little, allowing the intervening portion to sag, thus forming a kind of hammock. The splint is applied as follows: An assistant raises the limb (a leg in this case) to a considerable angle, while under it are laid transversely pieces of wide muslin bandage about four feet long. The splint is then placed on the strips, the injured member is laid on the hammock, and, depending on the diameter of the limb at the point of apposition, the rolls are separated or folded in as necessary, so that they may be everywhere firmly applied to the sides, and that the leg may everywhere rest on the hammock. While the surgeon holds the limb securely within the splint, the assistant brings the muslin strips around and ties them firmly in front, one below the heel, one below the knee, one above the ankle, and one above the knee, some cotton being inserted underneath for padding, if necessary. The strip below the heel serves to keep the foot at proper flexion and it may be supplemented by a piece of cardboard. In cases in which the blankets are likely to become soiled with discharges, a piece of rubber sheeting may be employed.

Iowa Medical Journal, Des Moines

January

146 The Brighter Side of Modern Surgery. I. S. Bigelow, Dubuque.
147 Cathartics in Acute Intestinal Obstruction. W. Jepson, Sioux City.
148 Diagnosis of Renal Calculus. O. J. Fay, Des Moines.
149 Intracranial Hemorrhage. G. G. Cottam, Rock Rapids.
150 Fractures of the Skull. A. M. Pond, Dubuque.
151 Woven Elastic Bandage in Simple Fracture of the Patella. A. B. Poore, Cedar Rapids.
152 Common Types of Coma. C. P. Howard, Iowa City.
153 An Epileptic Colony. G. H. Hill, Des Moines.

Journal of the Arkansas Medical Society, Little Rock

December

154 Uterine Fibromyoma; Wide Range of Complication. J. W. Smith, Hot Springs.

California State Journal of Medicine, San Francisco

January

155 Functional Periodicity in Women and Some of the Modifying Factors. C. D. Mosher, Palo Alto.
156 Salvarsan. D. W. Montgomery, San Francisco.
157 Serodiagnosis of Syphilis. L. S. Schmitt, San Francisco.
158 Insects and Medicine. C. Wellman, Oakland.
159 Epidemic Cerebrospinal Meningitis. F. G. Canney, San Francisco.
160 Renal Tuberculosis. G. S. Whiteside, Portland, Ore.
161 Cooperation of School Health Departments with Other Health Agencies. E. B. Hoag, Berkeley.
162 A Brief Account of Ludwig Pick's Work on Chorioepithelioma. D. Hadden, Oakland.
163 Heart Tonics. W. E. Bates, Davis.
164 Multiple Papillomata of the Urethra. L. Gross, San Francisco.
165 Impotentia Cœundi and Sexual Neurasthenia, and Their Treatment. A. B. Grosse, San Francisco.
166 Filariasis Treated by the Wherry-McDill Method (Cinchonization and Roentgen Irradiation). E. v. Adelung, Oakland.
167 Splenomegaly with Fatal Hematemesis. W. A. Sawyer, Berkeley.
168 Subcutaneous Injuries of the Abdominal Contents. O. D. Hamlin, Oakland.
169 Hospital Service for Railroad Construction Camps in the Pacific Northwest. W. O. Spencer, Huntington, Ore.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 7

1 Surgical Treatment of Venous Thrombosis. W. Bennett.
2 *Some of the Rarer Occurrences in the Rheumatism of Childhood. F. J. Poynton.
3 *Kidney Pain. E. H. Fenwick.
4 *Prevention of Heart Disease. W. Calwell.
5 *Treatment of Rodent Ulcer. E. G. Little.
6 *Excision of Cancer of the Esophagus. W. A. Lane.

2. **Rheumatism of Childhood.**—Among the conditions mentioned by Poynton are rashes, erythema nodosum, venous thrombosis, tachycardia, mastitis, hematemesis and epistaxis.

3. **Kidney Pain.**—Fenwick emphasizes, on physiologic and clinical grounds, the fact that the kidney is able to feel in only two areas—the pelvis and the neighborhood of the true capsule. Occasionally patients are encountered who do not have sensation in either area, and then crippling and progressive disease of the kidney may be painless from start to finish. The commonest structural change accompanying kidney pain is a distended pelvis; the commonest cause of kidney pain is dilatation of the renal pelvis. Cases in point are cited.

4. **Prevention of Heart Disease.**—Calwell holds that prevention of heart disease embraces (1) more accurate registration of deaths, so that the huge group labeled "syncope" may be analyzed; (2) the labors of the clinical bacteriologist to teach us what is rheumatic fever and how we may prevent it; and (3) a spread of real knowledge and education, so that men may learn not to treat the heart and blood-vessels as a careless and reckless schoolboy treats his bicycle, but as a skilled engineer treats a strong yet delicately balanced piece of complicated mechanism that reacts quickly, silently, mysteriously, to every touch of the skilled hand.

5. **Treatment of Rodent Ulcer.**—Little endorses the treatment of rodent ulcer by freezing. He reports eleven cases.

6. **Excision of Cancer of Esophagus.**—The principle of the operation done by Lane is to excise the portion of the esophagus affected by cancer, together with any glands, keeping well away from the diseased area, and to replace the segment of esophagus removed by means of a strip of skin cut transversely from the neck, and retaining an attachment and a blood-supply, the continuity of the esophagus being completely restored. After an interval of sufficient length for the firm union of the skin esophagus to the portion of the normal esophagus at the lines of section, the attachment of the flap of skin by its base to the skin of the neck is divided, and any lateral aperture in the skin esophagus which may remain is closed. Except when the growth involves the extreme upper limit of the esophagus or invades the upper aperture of the larynx, it would probably be possible to avoid performing tracheotomy. Till the edges of the skin esophagus have united to those of the esophagus, a tube for feeding purposes should be retained in position. In the case reported, the growth, which was very dense, was found to involve the upper 2 inches of the esophagus. In spite of the precautions of an extensive operation and subsequent treatment by radium, an indurated mass appeared in the neck in the vicinity of the operation and discharged itself externally, leaving a sinus. Through this aperture, a sudden profuse hemorrhage took place, resulting in the death of the patient six months after the operation. Necropsy showed that the growth had recurred in a small area in the left side of the neck, and that it had invaded the carotid artery, whose wall gave way in consequence. The area of esophagus made by skin did not differ in appearance from the adjacent portion of normal esophagus, with which it had become continuous.

Lancet, London

January 7

7 Report by the Education Committee Presented to the General Medical Council. H. Morris.
8 *Ultra-Chronic Pulmonary Tuberculosis. H. B. Shaw.
9 *Some of the Rarer Causes of Acute Abdominal Conditions. W. H. Battle.
10 A Case of Interstitial Pregnancy; Sac Removed Unruptured by Abdominal Hysterectomy. A. H. N. Lewers.
11 *The Cardiac Diastolic Sound and Impulse. T. Fisher.
12 British Health Resorts for Foreign Invalids. N. Wood.
13 *Iodin as a Disinfectant of the Skin Before Operations. V. Evans.
14 *Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalation. I. B. Yeo.
15 Perithelioma of the Great Omentum; Excision. W. G. Nash.
16 *Relation of Acute Phosphorus Poisoning to Acidosis. H. L. Tidy.
17 A Case of Digitalis Heart-Block. E. E. Laslett.
18 Technic of Intravenous Injection of Salvarsan. O. Grünbaum.
19 *Raw Meat and Raw Meat Juice in Treatment of Tuberculosis and Wasting Diseases (Zomo-Therapy). J. Hericourt.

8. **Ultra-Chronic Pulmonary Tuberculosis.**—Of 1,532 patients who had been found to show tubercle bacilli in the sputum, and to have present signs indicative of pulmonary disease, 303 were found by Shaw to have had the disease for five or more than five years. But in this number there are included some whose tuberculosis for some years existed, so far as can be ascertained, only in some part of the body other than the lungs, e. g., they may have first of all suffered from tuberculous dactylitis, adenitis or hip disease. These 303 patients include some who have had the benefit of in-patient and sanatorium treatment. Excluding these latter and also those whose tuberculosis expressed itself first in some system other than the pulmonary one, 212 cases are left, and from this number of patients observations are presented by Shaw to show how chronic may be the course of pulmonary tuberculosis subjected to the very trifling help, so far as the direct treatment is concerned, afforded in out-patient practice. These patients have succeeded in many cases in maintaining families, and that under conditions which are the very reverse to those which would be chosen to help arrest the disease. The occupation of these patients shows that indoor employment does not necessarily preclude survival with the disease during a considerable number of years, because all but eight of the fifty-three patients followed vocations within doors. One patient was still living after thirty-four and one-half years.

9. **Rare Causes of Acute Abdominal Conditions.**—Battle discusses acute hemorrhagic pancreatitis, acute dilatation of the stomach, hemorrhage from the stomach and enterospasm.

11. **The Cardiac Diastolic Sound and Impulse.**—Although a diastolic sound is commonly present in association with temporary ill-health in which the heart probably suffers, Fisher says it is, perhaps, most marked in cases of organic disease. In those cases, however, the sound may be strangely inconstant; that is to say, it may be distinctly audible one hour and not the next. The character of the impulse and the character of a cardiographic tracing, as might be expected, change with the alteration of the sounds. In mitral stenosis the presence of a diastolic sound distinct from the presystolic murmur is frequently observed. The sound need not, however, be limited to the apex, like the true presystolic murmur, but may be heard widely over the heart.

Fisher suggests that possibly the fact that it frequently occurs when inspiration is commencing to lend its aid to diastole of the ventricles may be considered to support the view that a diastolic sound is in some way connected with active diastole. A fact which he also urges in support of such a view is the occurrence of a diastolic sound in association with hypertrophy of the heart. The presence of the sound in the large heart of Bright's disease has frequently been the subject of comment. Another variety of hypertrophy in which the sound occurs is that associated with adherent pericardium in children. Here the sound may sometimes be so prolonged as to be readily mistaken for a presystolic murmur.

13. **Iodin as a Disinfectant of the Skin Before Operation.**—Evans endorses the use of iodin as a disinfectant—30 parts of chloroform to 1 of iodin, or half tincture strength, 1 in 80, or 1.25 per cent. He says that it is strong enough for all ordinary cases.

14. **Treatment of Pulmonary Tuberculosis by Inhalation.**—Yeo reviews some of his previous papers in which he recorded his observations on this treatment. They were, in the main, favorable.

16. **Acute Phosphorus Poisoning and Acidosis.**—Tidy emphasizes the connection of the secondary stage of acute phosphorus poisoning with acidosis.

19. **Raw Meat and Raw Meat Juice in Wasting Diseases.**—The author states that it is probably no exaggeration to say that the raw meat treatment of pulmonary phthisis yields results not approached by any other means at present available. Nevertheless, the benefits of zomotherapy are by no means limited to tuberculosis. Raw meat juice is of the greatest service in the various forms of anemia and chlorosis, in typhoid, neurasthenia, rachitis, and scurvy rickets, during convalescence, after hemorrhage, in fact, whenever it is desired to reinforce the defensive apparatus of the organism and repair the ravages of disease.

Australasian Medical Gazette, Sydney

November

20 Extraction and After-Treatment of Senile Cataract. W. O. Maher.
21 Abdominal Section. A Record of 1,400 Cases. A. J. McDonnell.
22 Diagnosis and Surgical Treatment of Malignant Disease of the [illegible]
23 Parti[illegible] r. T. Fiaschi.
24 Cases [illegible] A. Watson.
25 Cause [illegible] Pneumokoniosis of [illegible] ardy.
26 Pract[illegible] mplex in Ruptured Ab[illegible] tt.
27 A Ne[illegible] . M. Paton.
28 Malig[illegible]
29 Temp[illegible] Asystole. C. T. de Crespigny.

Clinical Journal, London

December 28

30 A Paralytic Stroke. S. Taylor.
31 Stricture of the Urethra and Its Treatment. C. A. R. Nitch.

January 4

32 [illegible]
33 * [illegible] pencer.
34 * [illegible] After Abdominal Operations. J. Hutchinson.

33. **Septicemia Hemorrhagica.**—Several cases of acute hemorrhagic cellulitis are cited by Spencer. They were (1) hemorrhagic cellulitis of the arm; (2) acute hemorrhagic cellulitis of the left buttock and thigh; (3) hemorrhagic cellulitis of the thigh; (4) hemorrhagic cellulitis round the knee; (5) acute subcutaneous hemorrhage following viper bite. A case of hemorrhagic enteritis is interesting. A young woman, aged 24, had diarrhea and, at first, occasional hemorrhages from the bowel, with vomiting and foul stools. Then she began to pass large quantities of blood by the stools, and lapsed into a state of acute anemia, with a pulse rate of 120, but at no time did the temperature vary much from normal. There was an absence of all signs of typhoid, and tuberculous enteritis. On the day preceding death there was noted for the first time a tenderness in the right iliac fossa, followed by clear signs of commencing infective peritonitis. The general condition of the patient was different from the common type of acute gangrenous appendicitis. The pulse was very rapid and weak, 130 or 140 a minute, but the temperature continued normal. The abdomen was a little tumid, but nowhere persistent or tender, except over the appendix. The appendix was removed as quickly as possible. No gangrene or pus, or sign of typhoid or tubercle, was found; there was congestion of the peritoneum around, and blood-stained fluid was sponged out of Douglas' pouch. The patient failed to react to saline infusion; she died four and a half hours after the operation; there was no post-mortem. The appendix removed was distended to the size of the end joint of the little finger by blood and mucus, but there was no evidence in the interior of gangrene or pus. The microscopic examination showed acute hemorrhagic inflammation of the mucous and submucous coats, in which were numerous cocci and rods. Several cases of renal hemorrhage are also cited.

34. **Gastric and Intestinal Hemorrhages.**—It is held by Hutchinson that hemorrhage into stomach and intestine due to small ulcers or erosions may develop after an operation, usually abdominal, has been performed. In 80 per cent. of the cases a severe septic infection with secondary anemia is present before the operation, the latter in itself having no direct influence on the hemorrhage. Similar lesions of the stomach or duodenum are found in certain cases of disease in which no operation has been performed; 80 per cent. of these cases are septic in nature. It is probable, Hutchinson believes, that a profound alteration in the blood, due in most cases to toxins of septic origin, is the chief factor in the production of these erosions. Such hemorrhage is of very grave significance, though a few patients recover from it. Operative interference does not appear to hold out much prospect of success in these cases, but further experience is needed on this point.

Indian Medical Gazette, Calcutta

December

35 Treatment of Syphilis at Aix-La-Chapelle. V. B. Green-Armytage.
36 Gynecologic Laparotomy, Gener[illegible] rvations Based on 150 Consecutive [illegible] in the Campbell Hospital, Calcutta. [illegible]
37 *Influence of Dysentery on Incidence and Mortality of Tuberculosis of the Lungs. W. Gillitt.
38 *Treatment of Amebic Abscess of the Liver by Aspiration and Injection of Quinin. L. Rogers.
39 Cholera Treated by Rogers' Method of Infusion of Hypertonic Saline Solution. T. C. Rutherfoord.
40 Suction Treatr[illegible] E. McKechnie.
41 Sanitation in [illegible]
42 Subcutaneous [illegible] 'Ialaria. H. Stott.

37. **Dysentery and Tuberculosis.**—In order to analyze the relationship between dysentery and tuberculosis, Gillitt divides the cases into the following types: (1) Tuberculosis of the lungs terminating in an attack of acute dysentery. (2) Chronic dysentery and tuberculosis occurring at the same time both of long standing and with no evidence to show which began first. (3) Chronic or recurrent dysentery followed by tuberculosis of the lungs. Among fifty-three cases of tuberculosis, thirteen (24.5 per cent.) showed ulceration of the colon and rectum. The ulcers occurred chiefly in the large intestine, although occasionally the lower part of the ileum was also involved. In one case, chronic dysentery and tuberculosis of the lung occurred at the same time with no evidence to show which was the primary lesion. Seven patients appeared to have developed the disease after suffering for some time from chronic dysentery. In only two of these seven cases was there actual ulceration of the large intestine at the time of death, described as "chronic." In two other cases there were scars of dysenteric ulcers, while in the other four the fact that tuberculosis followed chronic dysentery, and was presumably dependent on it, was expressly stated. In another case, the patient was in the hospital for three months suffering from chronic dysentery, and at the time of death there were tuberculous cavities at both apices. The total number of cases of tuberculosis investigated was seventy-one, and of these eleven patients (15.5 per cent.) had a well marked history of recent chronic dysentery. It is probable, says Gillitt, that dysentery was a predisposing factor in a larger proportion of the fatal cases, because the fact of there having been repeated attacks of dysentery would

not be noted in a necropsy report on a case of tuberculosis, unless the connection was very strong or unless one were specially looking out for such cases. The number of cases, too, in which tuberculosis is developed before admission to jail and in which a reliable history cannot be obtained is considerable.

38. Also published in the *Philippine Journal of Science*, July, 1910; abstracted in The Journal, Nov. 5, 1910, p. 1684.

Medical Press and Circular, London

December 28

43 Differential Diagnosis of Reno-Ureteral Affections. F. Cathelin.
44 The Change of Life in Man. B. Hollander.
45 Intracranial Neoplasms. Diagnosis and Indications for Treatment. T. A. Williams.

January 4

46 Roentgen Ray Diagnosis of Urinary-Calculi. M. J. Hayes.
47 Points in Urine Analysis. J. B. Smith.
48 Partial Resection of Stomach for Carcinoma. R. A. Stoney.

Glasgow Medical Journal

January

49 *The Unfit. W. J. H. Sinclair.
50 Advances in Hematology. W. K. Hunter.
51 *Graduated Labor at Bellefield Sanatorium. J. W. Allan.

49. **The Unfit.**—The term unfit is used by Sinclair in a general way, and is intended to include the always tired, the loafer and unemployable, the feeble-minded, the epileptic, the criminal and the alcoholic. He does not deal with the physically unfit, or the certifiably insane. He shows that there is a large and increasing number of unfit people. The influence of those people while at large is hurtful to the community, leading to the production of undesirable stock and to large public expense. Legislation for the care and control of the unfit in their own interest and in the interest of the race is urgently called for. Sinclair suggests that the physically capable and non-criminal among the unfit would probably be suitably dealt with in farm and labor colonies. Notification and registration is probably necessary as a preliminary to the proper care and control of epileptics. Much attention should be bestowed on the health and training of epileptic children, when possible by parents, otherwise by the state. The marriage of an epileptic should be prohibited by law. Epileptics improperly cared for by their relatives should be put under care and treatment in epileptic colonies. The shutting up for the natural term of their lives of incorrigible and irresponsible inebriates is highly desirable in their own interests and in the interests of the community. A simple and easy method of finding the feeble-minded, such as notification, Sinclair regards as probably practicable. Legislation to facilitate certification and to provide for the continued confinement of the feeble-minded is urgently required.

51. **Graduated Labor at Bellefield Sanatorium.**—Experience at Bellefield Sanatorium, Lanark, has convinced Allan of the value of moderate and graduated labor in suitable cases. It improves the appetite, tones the muscles, and improves the breathing. In the case of workingmen, it renders them more fit to return to their vocations. Four months of good feeding and absolute idleness in a sanatorium is conducive to the formation of fat and lazy habits. Besides the physical benefits, there is the psychical benefit derived from work. It puts the patients in a better frame of mind when they find that they are able to do something, and it raises their spirits, for they know when they are put on work the medical officer is satisfied with their condition. But at the same time, Allan is distinctly of the opinion that the labor should be moderate in character, and that it should be voluntary on the part of the patient. No patient should be urged to work if he expresses a decided disinclination to do so. A contrary line of conduct may be attended with very awkward or very serious consequences.

Bulletin de l'Académie de Médecine, Paris

December 20, LXXIV, No. 41, pp. 475-504

52 *Chronic Carbon Monoxid Intoxication. (Intoxication oxycarbonée lente; ses symptomes frustes.) J. Courmont, Morel and G. Mouriquand.
53 Peruvian Verruga in Madagascar. M. Letulle.

January 3, LXXV, No. 1, pp. 1-28.

54 Osteomalacia of Tuberculous Origin. (Tuberculose inflammatoire du squelette.) A. Poncet and R. Leriche.

52. **Slow Carbon-Monoxid Poisoning.**—Courmont, Morel and Mouriquand report the case-histories of thirty-five persons who for years during their working hours had to breathe air containing from 1 per 10,000 to 1,000 carbon monoxid. In the course of years they all developed nervous, digestive and general symptoms varying in intensity but most severe in the workrooms with the highest proportion of the impurity in the air. The syndrome was alike in each case, commencing with headache and occasional dizziness, then lassitude, loss of appetite, insomnia varied with nightmares followed, and neuralgias, intense or slight, transient or fixed, unilateral or bilateral, intercostal, subcostal, abdominal and especially in the lumbar and sacral region. The digestive disturbances were those characteristic of hyperchlorhydria. Twelve of the patients had intermittent albuminuria, three transient glycosuria and all grew thin and pale, some being so sallow as to suggest cancer. Some epileptics were among the patients and their previously rare seizures became so frequent that institutional measures were soon necessary. All the symptoms reached their acme in winter, when the defective furnaces and heaters were at work, but became attenuated during the spring and disappeared entirely during the summer vacation at first. In later years they became more continuous with lesser remissions. In three of the youngest patients the syndrome was diagnosed as pretuberculosis and they were sent out of town, returning much improved. In another case incipient tabes was diagnosed on account of the asthenia and psychic and neuralgic disturbances. A few other patients presented signs of congestion in the bladder and prostate. Gautier also reported the case of a physician who paid no attention to a little gas escaping in his office for a few weeks, until he developed a condition of extreme weakness, neurasthenia, and "the blues" requiring a three-months vacation to regain his normal poise. Gautier himself had attacks of faintness at night for more than a month after exposure to carbon monoxid for a short time during an operation in the open air. The syncope was so severe each time that he felt he was dying, and his weakness was extreme. Carbon-monoxid poisoning may prove fatal after a long interval, as in Bourdon's case in which a sudden fatal syncope followed several weeks after the acute monoxid poisoning from which the man had apparently recovered. The speakers all emphasized the insidious danger from slightly defective hot-air radiators and gas jets, and the emanations from gas ranges, etc.

Obstétrique, Paris

December, N. S. III, No. 12, pp. 1001-1080

55 Hematology of Menstruation. (Les pigments utérins.) H. Keiffer.
56 Metabolism During Pregnancy. Hoffström.
57 *Non-Operative Treatment of Uterine Cancer. L. Mangiagalli.

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Presse Médicale, Paris

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Correspondenz-Blatt für Schweizer Aerzte, Basel

December 10, XL, No. 35, pp. 1177-1208

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December 20, No. 36, pp. 1209-1256

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Deutsche medizinische Wochenschrift, Berlin

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63 *Ventral Hernia. (Darmwandbruch.) B. Riedel.
64 Vital Staining of Red Corpuscles. (Ueber die vitalfärbbare Granularsubstanz der roten Blutkörperchen, ihre Natur und Beziehungen zu ihrer sog. basophilen Punktierung.) R. Hertz.
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38. Also published in the *Philippine Journal of Science*, July, 1910; abstracted in The Journal, Nov. 5, 1910, p. 1684.

Medical Press and Circular, London

December 28

43 Differential Diagnosis of Reno-Ureteral Affections. F. Cathelin.
44 The Change of Life in Man. B. Hollander.
45 Intracranial Neoplasms. Diagnosis and Indications for Treatment. T. A. Williams.

January 4

46 Roentgen Ray Diagnosis of Urinary-Calculi. M. J. Hayes.
47 Points in Urine Analysis. J. B. Smith.
48 Partial Resection of Stomach for Carcinoma. R. A. Stoney.

Glasgow Medical Journal

January

49 *The Unfit. W. J. H. Sinclair.
50 Advances in Hematology. W. K. Hunter.
51 *Graduated Labor at Bellefield Sanatorium. J. W. Allan.

49. **The Unfit.**—The term unfit is used by Sinclair in a general way, and is intended to include the always tired, the loafer and unemployable, the feeble-minded, the epileptic, the criminal and the alcoholic. He does not deal with the physically unfit, or the certifiably insane. He shows that there is a large and increasing number of unfit people. The influence of those people while at large is hurtful to the community, leading to the production of undesirable stock and to large public expense. Legislation for the care and control of the unfit in their own interest and in the interest of the race is urgently called for. Sinclair suggests that the physically capable and non-criminal among the unfit would probably be suitably dealt with in farm and labor colonies. Notification and registration is probably necessary as a preliminary to the proper care and control of epileptics. Much attention should be bestowed on the health and training of epileptic children, when possible by parents, otherwise by the state. The marriage of an epileptic should be prohibited by law. Epileptics improperly cared for by their relatives should be put under care and treatment in epileptic colonies. The shutting up for the natural term of their lives of incorrigible and irresponsible inebriates is highly desirable in their own interests and in the interests of the community. A simple and easy method of finding the feeble-minded, such as notification, Sinclair regards as probably practicable. Legislation to facilitate certification and to provide for the continued confinement of the feeble-minded is urgently required.

51. **Graduated Labor at Bellefield Sanatorium.**—Experience at Bellefield Sanatorium, Lanark, has convinced Allan of the value of moderate and graduated labor in suitable cases. It improves the appetite, tones the muscles, and improves the breathing. In the case of workingmen, it renders them more fit to return to their vocations. Four months of good feeding and absolute idleness in a sanatorium is conducive to the formation of fat and lazy habits. Besides the physical benefits, there is the psychical benefit derived from work. It puts the patients in a better frame of mind when they find that they are able to do something, and it raises their spirits, for they know when they are put on work the medical officer is satisfied with their condition. But at the same time, Allan is distinctly of the opinion that the labor should be moderate in character, and that it should be voluntary on the part of the patient. No patient should be urged to work if he expresses a decided disinclination to do so. A contrary line of conduct may be attended with very awkward or very serious consequences.

Bulletin de l'Académie de Médecine, Paris

December 20, LXXIV, No. 41, pp. 475-504

52 *Chronic Carbon Monoxid Intoxication. (Intoxication oxycarbonée lente; ses symptomes frustes.) J. Courmont, Morel and G. Mouriquand.
53 Peruvian Verruga in Madagascar. M. Letulle.

January 3, LXXV, No. 1, pp. 1-28.

54 Osteomalacia of Tuberculous Origin. (Tuberculose inflammatoire du squelette.) A. Poncet and R. Leriche.

52. **Slow Carbon-Monoxid Poisoning.**—Courmont, Morel and Mouriquand report the case-histories of thirty-five persons who for years during their working hours had to breathe air containing from 1 per 10,000 to 1,000 carbon monoxid. In the course of years they all developed nervous, digestive and general symptoms varying in intensity but most severe in the workrooms with the highest proportion of the impurity in the air. The syndrome was alike in each case, commencing with headache and occasional dizziness, then lassitude, loss of appetite, insomnia varied with nightmares followed, and neuralgias, intense or slight, transient or fixed, unilateral or bilateral, intercostal, subcostal, abdominal and especially in the lumbar and sacral region. The digestive disturbances were those characteristic of hyperchlorhydria. Twelve of the patients had intermittent albuminuria, three transient glycosuria and all grew thin and pale, some being so sallow as to suggest cancer. Some epileptics were among the patients and their previously rare seizures became so frequent that institutional measures were soon necessary. All the symptoms reached their acme in winter, when the defective furnaces and heaters were at work, but became attenuated during the spring and disappeared entirely during the summer vacation at first. In later years they became more continuous with lesser remissions. In three of the youngest patients the syndrome was diagnosed as pretuberculosis and they were sent out of town, returning much improved. In another case incipient tabes was diagnosed on account of the asthenia and psychic and neuralgic disturbances. A few other patients presented signs of congestion in the bladder and prostate. Gautier also reported the case of a physician who paid no attention to a little gas escaping in his office for a few weeks, until he developed a condition of extreme weakness, neurasthenia, and "the blues" requiring a three-months vacation to regain his normal poise. Gautier himself had attacks of faintness at night for more than a month after exposure to carbon monoxid for a short time during an operation in the open air. The syncope was so severe each time that he felt he was dying, and his weakness was extreme. Carbon-monoxid poisoning may prove fatal after a long interval, as in Bourdon's case in which a sudden fatal syncope followed several weeks after the acute monoxid poisoning from which the man had apparently recovered. The speakers all emphasized the insidious danger from slightly defective hot-air radiators and gas jets, and the emanations from gas ranges, etc.

Obstétrique, Paris

December, N. S. III, No. 12, pp. 1001-1080

55 Hematology of Menstruation. (Les pigments utérins.) H. Keiffer.
56 Metabolism During Pregnancy. Hoffström.
57 *Non-Operative Treatment of Uterine Cancer. L. Mangiagalli.

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Deutsche Zeitschrift für Chirurgie, Leipsic

November, CVII, Nos. 4-6, pp. 297-620

69 Diagnosis and Treatment of Fracture of Bones in Hand. J. Fessler.
70 *Operative Treatment of Carcinoma of the Cardia. H. H. Janeway and N. W. Green (New York).
71 Ossifying Myositis After Trauma, Fractures and Arthropathies. P. Ewald.
72 *Changes in Blood Under Influence of the Thyroid and of Thyroid Treatment. Einfluss der Schilddrüse u urin.
73 *Spinal Anesthesia and Bl und Blutdruck mit besonderer Berücksichtigung des Zusatzes von Nebennierenpräparaten zum Anästhetikum.) M. zur Verth.
74 Improved Automatic Closure of Tips of Forceps, etc. (Automatische und graduelle Festklemmung der Spitzen bei hämostatischen Zangen, Histotritoren, Darmkompressoren und-Okklusoren.) A. Marro.
75 Hernia of Stomach into Omentum. (Hernia ventriculi epiploica und ihre Mechanik.) M. v. Arx.
76 *Sarcoma Under Nail of Toe. (Zur Kasuistik der subungualen Zehensarkome.) G. G. Wurmbrand.
77 *Prevention and Treatment of Fat Embolism. E. Fritsche.
78 *Laryngocele. (Kehlsackbildung beim Menschen.) R. v. Hippel.
79 Epinephrin-Anemia for Operations on Skull and Spine. H. Braun.
80 Resection of the Carpus. L. Heidenhain.
81 *Operative Treatment of Typhoid Bacillus-Carriers. A. Fromme.
82 Invagination of the Intestine in Ileocecal Region. S. Solieri.
83 Retrograde Incarceration. O. Klauber.

70. This article appeared in *Annals of Surgery*, June, 1910, and was abstracted in The Journal, July 30, 1910, page 435.

72. **Thyroid Functioning and the Blood.**—This communication issues from the clinic at Berne in charge of Kocher; it reports research in this line which seems to show that the changes in the blood with exophthalmic goiter are the result of the abnormally large amounts of thyroid secretion which are produced. The myeloid system is not influenced but the lymphoid system reacts positively to the action of the hyperfunctioning of the thyroid on the blood-producing organs. The conditions in normal persons, in patients with exophthalmic goiter and in these or others before or during thyroid treatment are compared and ten pages are devoted to tabulation of the details. Ordinary colloid struma does not seem to affect the composition of the blood, but thyroid treatment brings about a condition similar to the characteristic blood-picture of exophthalmic goiter, namely, pronounced lymphocytosis and leukopenia, which is unquestionably due to the reaction of the blood-producing organs to the excessive thyroid secretion.

73. **Technic for Spinal Anesthesia.**—In this report from Bier's clinic at Berlin, zur Verth emphasizes the necessity for restricting the analgesia to the point where it is needed. When this is done, operations up to the level of the crest of the ilium can be done without any drop in blood-pressure and can thus be regarded as safe. No by-effects are observed, he states, when the analgesia is restricted to this region. In passing judgment on lumbar anesthesia, he says that we must discriminate between the effects of the analgesia in this region and the effects of the anesthetic forced up higher than is necessary. The by-effects increase in number and severity the higher the analgesia is induced. The aim should be to find an anesthetic or combination which will leave the heart-pressure uninfluenced even with high analgesia. Until this ideal is realized, it is wiser to keep the blood-pressure at its normal figure, with drugs to act on the heart, when high spinal anesthesia is attempted. Bier has been having the blood-pressure studied during the last six years and zur Verth gives his experiences with forty-four patients anesthetized by the spinal technic with or without epinephrin. A drop in blood-pressure of more than 25 per cent. was observed in eighteen cases, but the operation had been high in the rectum or on the kidney or bladder in all of these, and thus above the level of the absolutely "safe" region. The addition of a suprarenal preparation did not seem to have any influence in preventing the drop in blood-pressure, while it reduced the extent of the analgesia but seemed to prolong it. A few whiffs of ether augment the force of the heart without acting on the vessels. Epinephrin, on the other hand, acts on the tonus of the vessels; this raises the blood-pressure if the heart is working as usual, but the epinephrin acts also on the heart, reducing energy. As the blood-vessels are contracted at the same , the result is naturally more in the line of a collapse the whole cardiovascular system than in the line of stimulation. That the collapse does not occur as a rule is due to the special counteracting influence of some component of the suprarenal preparation acting directly on the heart functioning.

76. **Sarcoma on the Toe.**—Wurmbrand reviews the cases on record in which an ingrowing nail or nevus has been the seat of cancerous growth and reports three cases from Hochenegg's clinic at Vienna. The patients were two men of 47 and 56 and a woman of 59, with sarcoma in the left great toe; there was a history of slight trauma in one case. In a fourth case the right great toe had been enucleated for melanosarcoma ten years before inoperable metastasis was discovered in the right calf. The affection was of slow development, several years elapsing before the pains became severe and secreting granulations developed under the nail. In all the cases months had been wasted with ordinary medical measures, inducing temporary improvement, the trouble flaring up again after a few months.

77. **Fat Embolism.**—Fritzsche has been studying the mechanism of fat embolism on rabbits and dogs, and states that cutting injuries of bones are liable to lead to fat embolism, the veins in the bones taking up the particles of fat. He found, however, that mere concussion of the bone was sufficient in some cases to induce fat embolism by the lymphatic route, the lymphatics taking up the fat particles and thus passing them along into the circulation. In these cases of lymphatic fat embolism he found that prompt drainage of the thoracic duct warded off danger when the operation was done at the first signs of fat embolism. The procedure is simple and harmless, he says, but its field of application is necessarily limited.

78. **Laryngocele.**—Hippel devotes nearly a hundred pages to this rare anomaly, his attention having been called to it by a case personally observed.

81. **Surgical Treatment of Typhoid Bacillus-Carriers.**—Fromme reviews the experiences that have been published in this line to date and reports cases in which he operated to put an end to the chronic elimination of typhoid bacilli, accomplishing his purpose in each case by cholecystectomy. The patients were four women between 38 and 46 years old, and the biliary passages were found to harbor typhoid bacilli as well as the gall-bladder. After the removal of the latter the typhoid bacilli were evidently exterminated by other saprophytic bacteria. He urges surgeons in operating on the biliary apparatus to search for possible typhoid bacilli, as undoubtedly the number of unsuspected bacillus-carriers is large. Fromme believes that many healthy bacillus-carriers might consent to operative treatment if convinced of the peril to their environment and to themselves.

Medizinische Klinik, Berlin

December 25, VI, No. 52, pp. 2045-2064 and Supplement

84 *Gonorrheal Rheumatism. (Tripperrheumatismus.) G. Hahn.
85 *Early Signs of Epilepsy in Children. (Kinderfehler in Schule und Haus als Frühzeichen der konstitutionellen Epilepsie.) H. Stadelmann.
86 Tuberculosis as Indication for Arresting Pregnancy. (Zur künstlichen Unterbrechung der Schwangerschaft bei Tuberkulose.) H. Hellendall.
87 *Differential Diagnosis Between Deafmutism and Mutism from Deafness. (Taubstummheit und Hörstummheit.) E. Fröschels.
88 Percutaneous Technic for Salvarsan. H. Leyden.
89 *The Development of the Rachitis Problem in the Last Decade. F. Zybell.

84. **Gonorrheal Rheumatism.**—Hahn remarks that the lack of benefit from salicylic medication is one of the chief means of distinguishing the gonorrheal form of joint affections. Treatment generally has to be merely symptomatic but vaccine therapy may prove to have a causal action; the experiences to date seem to be promising. The gonococcus seems to have a special predilection for the periosteum and to stimulate an exuberant granulation. Especially threatening are the cases in which the swollen joint looks angry and pains and fever announce the onset of suppuration. Pyemia and death often close the scene unless operative measures are applied in time; even in the more favorable cases, the joint is liable to be left stiff. Pericardial and pleural complications are fortunately rare, as also phlebitis; endocarditis is more common. The prognosis is grave in gonorrheal endocarditis. Complications in the conjunctiva and iritic processes have also been observed in a few cases. Hahn advocates treatment of coexisting gonorrheal urethritis as under other conditions. Rest of the joint and local application of heat for several hours a day are the main reliance.

85. **Early Signs of Epilepsy in Children.**—Stadelmann refers in particular to the naughtiness, the moodiness and brutality shown by certain children who develop epilepsy later; he regards this abnormal behavior as an early manifestation of epilepsy. Another sign is attacks of excitement at times, the child speaking hurriedly, the syllables tripping over each other, sometimes actual stuttering; or the defect may manifest itself in apathy. Disturbances in coordination in children, an impulse to keep the arms, hands or legs in motion, are defects observed in those inclined to epilepsy. Parents and teachers notice these defects before the physician sees the child, and they should be warned to be on the lookout for them as signs of a tendency to possible epilepsy. The earlier medical care can be given the child the better the outcome, the prognosis being much more favorable before the seizures are once installed. If the previous history of the child is taken into account, whether it had convulsions or diarrhea in infancy, etc., the early diagnosis may be facilitated. In the parents or brothers and sisters signs of epilepsy may also be detected, such as gastro-intestinal disturbances without preceding errors in diet, recurring manifestations suggesting geographic tongue, and also the tendency to brutality and cynicism, lack of affection and selfishness. Epilepsy must be regarded as a constitutional disease which induces a train of various symptoms; the seizure is merely the most striking and violent symptom in the train. Suspicion of epilepsy compels institutional treatment, he insists; there is no chance for a successful outcome unless the child can be kept under constant medical care and pedagogic training. Many children thus predisposed to epilepsy never develop seizures and seem to live an apparently normal life. But the tendency to epilepsy persists and in later years the individual is liable to come into conflict with the law.

87. **Differentiation of Mutism.**—Fröschels has found that deaf-mutes do not seem to feel anything tickling the inside of their outer ear while children with a normal hearing apparatus feel the tickling at this point with exceptional intensity. He introduces a bougie into the ear and twists it to and fro and found that this was borne without a trace of shrinking by ninety-four children in a deaf-mute asylum although all were extremely ticklish elsewhere. On the other hand, he found that fifty normal children tested felt the tickling with special intensity; most of them otherwise were not especially ticklish. This test is proving useful, he states, for differentiating actual *deaf-mutism from mutism* due to other causes, with or without hearing. Treatment based on the findings has given good results in twelve children, idiots and others, supposed to be deaf-mutes as they did not speak but who proved able to speak when trained.

89. **Rachitis.**—Zybell concludes his review of what has been learned and accomplished in respect to rachitis since 1900, with the statement that organotherapy has not displayed any specific action on rachitis, the results being more a general stimulating effect, due mostly to the hygienic measures instituted along with it. Phosphorus is the main reliance, and recent research has supplied the scientific basis for the empirical observation of the benefit from the action of phosphorus on the mineral metabolism, especially on prevention of waste of lime. It displays the greatest power in this line paired with cod-liver oil; neither alone and none of the derivates of phosphorus has the same effect. His formula is 0.01 c.c. yellow phosphorus with cod-liver oil to 100 c.c.; the dose is 5 c.c. two or three times a day. The compound should be made up fresh every week or ten days.

Münchener medizinische Wochenschrift

December 20, LVII, No. 51, pp. 2673-2756

90 *Action of Salvarsan on the Eye. (Experimentelle und klinische Untersuchungen mit Salvarsan unter bes. Berück. der Wirkung am Auge.) J. Igersheimer.
91 By-Effects of Salvarsan. K. Bohac and P. Sobotka.
92 Regeneration of Bone After Injection of Salvarsan. Therstappen.
93 Experimental Research on Epidemic Poliomyelitis. P. H. Römer and K. Joseph
94 Pupil Disturbances in Dementia Præcox.. O. Bumke.
95 *Mechanical Measures for Arresting Hemorrhage from Stomach or Intestines. (Zur Stillung gefährlichen Magen- und Darmblutungen.) G. Kelling.
96 Enlarged Lymph Glands Not Always Sign of Tuberculosis. (Verwertbarkeit der subkutanen Thoraxlymphdrüsen für die Diagnose der Lungentuberkulose.) W. Schulze.
97 Action and Dosage of Epinephrin in Subcutaneous Injection. Kirchheim.
98 Hyoscyamus Poisoning in 1649. (Geschichtlicher Beitrag zur Vergiftung mit Bilsenkraut.) H. Schulz.
99 Nature and Importance of Anaphylaxis. E. Friedberger. Commenced in No. 50.

December 27, No. 52, pp. 2757-2780

100 *[illegible] Pregnancy Disturbances. (Versuch, Schwan- [illegible] durch Einspritzungen von Schwanger- [illegible]ilen.) A. Mayer and P. Linser.
101 *Action of External Application of Cold on Temperature of the Stomach. (Absinken der Kern—speziell der Magen—temperatur bei äusserlicher Kälteapplikation.) M. Riehl.
102 *Dysentery Epidemic in a Hospital. (Ueber eine Flexnerdysenterieepidemie in einem Spitale, bei welcher die Uebertragung der Keime von der Spitalsküche mittels der Essgeschirre erfolgte.) B. Bussow.
103 Technic and Contra-Indications for Administration of Salvarsan. W. Gennerich.
104 Salvarsan in Syphilis. C. Ravasini.
105 *Massage of the Nerves at Their Emerging Points. (Nervenpunktlehre und Nervenpunktmassage nach Cornelius.) A. Schüle.
106 *Local Action of Salvarsan at Point of Injection. K. Martius. Commenced in No. 51.

90. **Action of Salvarsan on the Eye.**—Igersheimer asserts that salvarsan not only has no injurious action on the eye, but in many cases in his experience had a curative effect on existing syphilitic eye affections. His experiments on animals show, he asserts, that the injurious action of atoxyl on the optic nerve is the result of phenylarsenate, and that cats and dogs are peculiarly sensitive to it. Salvarsan does not seem to contain phenylarsenate derivates and no symptoms suggesting toxic action from their presence could be detected in any of the animals tested. In the animals an accumulation of the arsenic was found in the eyeball, in one up to forty-eight hours after the last injection, but there was no Marchi reaction in the optic nerve. This demonstrates, he declares, that an organic arsenic is not split off from salvarsan, but at the same time it suggests the necessity for caution in chronic administration of the drug. There was no tendency to hemorrhage in the kidneys in the animals treated with salvarsan; this is the specific sign of atoxyl poisoning.

95. **Mechanical Measures for Arrest of Gastro-Intestinal Hemorrhages.**—Kelling was able to palpate a knobby growth in the stomach in a woman of 40 with hematemesis. It was more than probable that the bleeding issued from this ulcer and he applied mechanical compression to the spot, first with his hand and then under a tourniquet. He kept up this compression for eight hours, giving a little morphin besides. There was no recurrence of the hemorrhage. He improvises a tourniquet for such cases by laying a small tray on a pad and fastening the tray and pad with one or two towels drawn tight and fastened behind. This compression can be applied even when nothing pathologic can be palpated. The pylorus can be easily reached in this way, but the cardia requires different measures, and he suggests for this passing a tube through the nose into the stomach. A rubber cot fastened on the lower end of the tube can then be inflated and drawn back to plug the opening at the cardia. With the filling of the cavity between the cardia and the pylorus, he thinks that the hemorrhage would certainly stop. This measure might be recommended when the patient has to be taken to a hospital before operative treatment is possible. He thinks this procedure would amply suffice to arrest hemorrhage from venous congestion in this region, such as accompanies cirrhosis of the liver. These hemorrhages left to themselves are unusually dangerous; they are easily recognized by the copious vomiting of the venous blood with the liver large and hard. He seeks to promote coagulation of the blood by giving the patients pulverized chalk stirred into milk, supplemented by an intravenous injection of 5 c.c. of a 5 per cent. salt solution. He refrains from subcutaneous injection of physiologic salt solution so long as the hemorrhage persists, and combats the thirst with narcotics. Later water can be given by the rectum in small amounts, care being exercised not to increase the blood-pressure thereby. He makes a rule of giving small nutrient enemas of raw milk with nothing by the mouth for two or three days. Epinephrin by the mouth does little good

as its action is purely local and the spurting blood washes it away from the spot. Still another measure that might be applied to gastric or intestinal hemorrhage is inflation of the lower bowel by a tube introduced far up in the rectum; with a double bulb it is possible to inflate the transverse colon and thus exert pressure on the stomach and duodenum. Compression from this procedure is particularly effectual during pregnancy, the colon then lying in front of the stomach. The dilated colon prevents further entrance of blood into the stomach and its escape into the duodenum. In the three cases in which he has applied this technic the hemorrhage was arrested at once; in all the cases the stomach was above the umbilicus. In three other cases he injected oxygen into the abdomen through a trocar and the hemorrhage was arrested, as also the recurring hemorrhages in a cancer case. The necropsy findings in several cases confirm the benefit induced by compression by this means.

100. Serotherapy of Pregnancy Disturbances.—Mayer and Linser report the case of a woman with recurring pregnancy herpes; the entire body was covered with the eruption, and the bed linen was covered with pus. The pain was severe and the urine showed tube-casts and albumin. After failure of all other measures, at the end of two weeks, 10 c.c. of serum from another woman were injected to test the tolerance for normal human serum; three days later, 10 c.c. from a healthy pregnant woman at the eighth month, and three days later 20 c.c. from another healthy pregnant woman. The injections were made into a vein; the temperature began to subside after the second injection and became normal after the third. The influence on the eruption was equally striking; the pustules drying up and no new ones forming. The pregnancy at the fifth month was not disturbed. Five weeks later the same eruption recurred, but less pronounced and it subsided at once after injection of 20 c.c. of serum from a pregnant woman. The child was born normally at term. The tracing given shows the change for the better after the first injection of the serum from another pregnant woman. The results in this case, he declares, justify further experiences in this line of serotherapy of the dermatoses of pregnancy and possibly of all the toxicoses of pregnancy, eclampsia, pernicious vomiting, albuminuria, etc. This harmless and simple method may cure or at least improve, and he urges others with more extensive material to give it a thorough trial.

101. Reduction of Internal Temperature After External Application of Cold.—Riehl inserted a narrow thermometer into the lower end of a stomach tube, only the end projecting. By this means he was able to determine the temperature in the interior of the stomach before and after application of cold outside. He found that the temperature could be thus reduced by 1.8 degrees C. in the stomach and 1.1 degrees C. in the rectum. This reduction of nearly 2 degrees C. in the interior of the body may prove of life-saving value, he declares, in cases of gastric hemorrhage, the cold having a coagulating action on the blood, supplemented by the effect of the expulsion of blood from the region and the reflex action on the vasoconstrictor nerves.

102. Dysentery Epidemic in a Hospital.—The epidemic in the case described was traced to the dishes sent out from the central kitchen. The contagious ward had its own equipment for washing the dishes before they were returned to the central kitchen, but this was shown to be inadequate. Contagious wards should have each their own separate kitchen, with no communication of dishes between the contagious ward and the other services.

105. Nerve Massage.—Cornelius is in charge of the nerve massage policlinic connected with the Berlin Charité. The patients are given a thorough examination to exclude organic disease; if none is found, careful search is made for tender points anywhere in the body and these are frequently found at the points where the nerves emerge from the bone. Here Cornelius applies massage, and he has been able by this means to cure rebellious cases of migraine, traumatic neuroses, ptyalism, hypersecretion, writer's cramp, chronic sciatica and the diffuse pains of the hysteric and neurasthenic. He explains the benefit as a stimulating to normal functioning of some morbid point in the nervous system which is sending out constant pathologic irritation, the nerves thus never having a chance to rest. The morbid point is found where light pressure is able to elicit a morbidly exaggerated response, that is, more or less pain. Schüle has been studying the method with Cornelius and has seen many patients cured whose nervous ills had resisted all other measures.

106. Local Destructive Action of Salvarsan.—Martius reports a case in which death followed five hours after intravenous injection of 0.5 c.c. of salvarsan in a man of 39 with apparently well compensated heart disease. No thrombosis was found in this case but the kidneys showed acute necrosis of the epithelium of the convoluted tubules. He found extensive necrosis at the point of every subcutaneous or intramuscular injection of salvarsan; all the tissues in contact with the drug were totally necrotic. This necrosis involving the nerves in the region explains the neuritic phenomena repeatedly observed after the injection. Owing to the rapid decomposition of the drug, it is a question whether there may not be absorption of injurious arsenic derivatives although such absorption is hindered by the necrosis in the region. The results are liable to be very serious when infection complicates the necrosis. In one such case in his experience, there was thrombosis of the iliac vein and fatal pulmonary embolism. In one of his cases the necrosis in the gluteal muscles shows no tendency to heal although three months have elapsed. In two cases the necrotic mass had to be excised. The extension of the direct local toxic action of the drug to the sciatic nerve and sympathetic plexus explains the bladder and rectum disturbances observed in some clinics.

Therapie der Gegenwart, Berlin

December, LI, No. 12, pp. 529-576

107 Present Status of Radium Emanations in Therapeutics. F. Gudzent.
108 *Operative and Specific Treatment of Kidney and Bladder Tuberculosis. (Nieren- und Blasentuberkulose.) H. Kümmell.

108. Tuberculosis of the Urinary Apparatus.—Kümmell reviews his extensive experience with tuberculous kidney and bladder disease, emphasizing the insidious nature of the onset. Many of his patients had been long under treatment for supposed gynecologic or gonorrheal affections. He is convinced that gonorrhea in both sexes affords a predisposition to tuberculosis of the urinary apparatus. A number of his patients had been treated for bladder disturbances alone, the physician not thinking of examining for the causal kidney tuberculosis. The coincidence of gonorrhea and kidney tuberculosis is often misleading. He has performed 125 operations for kidney tuberculosis and states that of the eighty-four patients who survived the first six months, nine died within four years, two within thirteen years, for three the interval is not known, while four have been lost to sight. The sixty-six others are in good health to date, three of the patients having passed through a normal pregnancy since. His own experiences and those he finds recorded in the literature fail, he says, to show any curative action on kidney tuberculosis from tuberculin treatment.

Wiener klinische Wochenschrift, Vienna

December 22, XXIII, No. 51, pp. 1831-1870

109 *Functional Tests of the Autonomic Nervous System in Mental Disease. O. Pötzl, H. Eppinger and L. Hess.
110 *Diagnosis of Disease of Blood-Producing Organs by Exploratory Puncture of the Bone Marrow. G. Ghedini.
111 Serodiagnosis of Syphilis. (Auswertung luetischer Sera auf die Intensität ihrer komplementbindenden Eigenschaft gegen alkoholisch [illegible] pstein.
112 Röntgen-Ray [illegible] Heart. (Typischer Röntgenbefund [illegible] und dessen anatomische Grundlage.)

December 29, No. 52, pp. 1871-1894

113 Cretinism Among the Jews. (Kretinismus unter den Juden.) A. Flinker.
114 *Prophylaxis of Scarlet Fever. (Scharlach und dessen Weiterverbreitung.) H. Kokall.
115 Suppuration After Contusion of the Kidney. (Beitrag zu den Eiterungen nach subkutanen Nierenverletzungen.) J. R. v. Winiwarter.
116 Diagnosis of Duodenal Ulcer. M. Gross (New York).
117 Disturbances in Hearing After Salvarsan. (Zur Frage der Erkrankung des Gehörapparates nach Behandlung mit Arsenobenzol.) O. Beck.

109. Functional Tests of the Sympathetic Nervous System in Mental Disease.—The research described was undertaken to decide whether the action of elective drugs became altered in the course of certain psychoses. Over a hundred patients were thus examined, the results of the tests showing that the autonomic nervous system shares in the depression in melancholia and also in the abnormal excitability in mania.

110. **Exploratory Puncture of the Bone Marrow.**—Ghedini's further experience has confirmed his previous statements in regard to the diagnostic importance of exploratory puncture of the bone-marrow during life. He describes ten cases in detail. His findings show that severe disease of the blood-producing organs may exist without corresponding changes in the blood, either at the time or following them. In many cases disease of the bone marrow evidently runs its course unsuspected. In one case the general health has remained good and the blood-picture is approximately normal, although the bone marrow shows pronounced myeladenoid transformation and the liver and spleen are evidently infiltrated with myeladenoid elements. Notwithstanding these changes in the marrow, its function of producing red corpuscles seems to be scarcely impaired. Systematic application of exploratory puncture of the bone marrow on an extensive scale will certainly throw light on a number of affections, including malignant growths. The exploratory puncture, he says, is very easily done and is harmless.

114. **Spread of Scarlet Fever.**—Kokall states that in the last twenty-eight years 4,251 cases of scarlet fever have been reported at Brünn. His study of the mode of dissemination of the disease gives discouraging results, as the sterilization of the premises and measures to prevent infection of others failed in so many cases. It is evident, he thinks, that the virus is transmitted not only in the period of incubation but long after recovery far beyond the routine six weeks. The aim should be, he thinks, to remove the virus from the mouth by mechanical means. In a series of twenty families, fifty-eight cases of scarlet fever developed. In some instances the second case followed after an interval of fifty-seven days, when the child first affected returned from the hospital, notwithstanding all precautions.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVII, No. 2, pp. 267-601. Last indexed Nov. 12, 1910, p. 1771

118 Cicatrization of Perineal Tears. (Lässt sich Küstners Lehre von der Entstehung asymmetrischer Dammrissnarben auch durch histologische Untersuchungen stützen?) R. Stern.
119 Improved Technic for Abdominal Fixation of Uterus in Serious Displacement or Total Prolapse. (Abdominale Exohysteropexie bei schweren Lagefehlern und totalem Prolaps des Uterus.) S. Solieri.
120 Abnormally Prolonged Pregnancy. (Klinische und forensische Studi[illegible] Ciulla.
121 Combin[illegible] of Placenta Præv[illegible] prævia bei der [illegible] bei der Metreuryse.) Weischer.
122 Cholesteatoma in Ovary. W. Piltz.
123 Plastic Utilization of Uterus with Rectocele. A. Kraatz.
124 Leiomyoma of Uterine Cervix; Four Cases. (Leiomyome der Muttermundslippe.) K. Kolb.
125 Pathology of the Uterus. O. Polano.
126 *Tardy Hemorrhage in the Puerperium. (Spätblutungen im Wochenbett.) H. Küster.
127 Cancer of the Cervix Complicating Pregnancy and Delivery. (Komplikation der Schwangerschaft und Geburt mit Collumkrebs.) W. Beckmann.
128 Improved Technic for Laparotomy. (Zur Methodik der Köliotomie.) Harte and M. Hofmeier.

126. **Tardy Hemorrhages in the Puerperium.**—Küster announces on the basis of two cases from his experience that hemorrhage can occur from thrombi in the uterus a week after it has been completely emptied. Macroscopically, the thrombi cannot be distinguished from placenta and membrane scraps, but the microscope will reveal their true nature and microscopic examination should never be omitted in forensic cases. In prevention of hemorrhage after the first week of the puerperium, patients who have had any disturbances in the days immediately following delivery should be watched with special care. In his first case the hemorrhage came on the fourteenth day. The woman had had severe hemorrhage from atony at the birth of her last child. The clot found in the uterus resembled a bunch of tissue measuring 4 by nearly 3 cm. but proved to be nothing but a thrombus. The woman recovered under the usual measures. The puerperium had been otherwise normal, as also in the other case except for placenta marginata and considerable hemorrhage during Credé expression which had been required in both cases.

Zeitschrift für klinische Medizin, Berlin

LXXI, Nos. 3-6, pp. 165-478. Last indexed Oct. 1, 1910, p. 1239

129 Experimental Coma Induced by Sodium Oxybutyrate. (Wirkung des buttersauren Natriums auf den Organismus junger hungernder Hunde.) A. Marx.
130 Pathology of Paroxysmal Hemoglobinuria. L. Fejes and J. Kentzler.
131 Reliability of Threshold Percussion of Stomach. (Perkussion des Magens.) N. Roth.
132 Tuberculin Anaphylaxis. (Zur Frage der Tuberkulin-Anaphylaxie.) G. Kiralyfi.
133 Coagulation-Promoting Action of Rabbit Serum and Organ Extracts in Acquired Hemophilia. M. Vogel.
134 *Elimination of Drugs by Diseased Lungs. F. Falk.
135 The Urine in Pregnancy. (Ueber Ammoniak-, Aminosäuren- und Peptid-Stickstoff im Harn Gravider.) F. Falk and O. Hesky.
136 Recovery from Primary Pernicious Anemia. (Von dem weiteren Schicksal einer vor 13 Jahren geheilten perniziösen Anämie.) G. v. Dieballa.
137 Subsidence of Pernicious Anemia After Onset of Tuberculosis. G. v. Dieballa.
138 Bacteriologic Findings in Epidemic Cerebrospinal Meningitis. J. Lehmacher.
139 Influence of Radium Emanations on Purin Metabolism. (Einfluss der Radiumemanation auf den Purinstoffwechsel.) F. Gudzent and Loewenthal.
140 Influence of Radium Emanations on Gouty Tophi. (Einfluss der Radiumemanation auf Mononatriumurat im tierischen [illegible]anow.
141 [illegible] mosphere in Radium Emanations in [illegible] Processes. (Beitrag zur Erklärung [illegible] auf biologische Vorgänge.) P. L. E. Grabley.
142 Influence of Thyroid on Coagulation of Blood. (Zur physiologie und Pathologie der Schilddrüse.) K. Kottmann and A. Lidsky.
143 The Fibrin Content of the Blood in Connection with Thyroid Functioning. K. Kottmann.
144 The Thyroid and Autolysis. K. Kottmann.
145 *Measurement of Horse Power of Pulse: Energometry. (Neue Wege der Pulsdiagnostik.) T. Christen.
146 Diagnosis and Treatment of Pericarditis with Effusion, and Adhesive Pericarditis. K. F. Wenckebach.
147 Frictional Resistance of Blood. (Reibungswiderstand des Blutes und Poiseuillesches Gesetz.) W. Hess.
148 Case of Leukanemia. E. Magnus-Alsleben.
149 Experimental Metaplasia of the Spleen. (Zur Frage der experimentellen myeloischen Milz-Metaplasie.) R. Hertz.
150 Local Disturbances in the Circulation with Exercise of a Limb. (Lokale Kreislaufsveränderungen bei aktiven Bewegungen einer Extremität.) S. Saski.
151 Schönlein's Pioneer Work in Diagnosis. (Joh. Lucas Schönleins Verdienste um die diagnostische Technik.) E. Ebstein.

134. **Elimination of Various Substances by Diseased Lungs.**—Falk experimented with various drugs, his results confirming the assertion that salicylic acid does pass into the diseased lung and is thus eliminated by the respiratory passages; antipyrin also passes into the sputum in the same way but in far smaller proportions. Other drugs tested were not refound in the sputum at all, not even guaiacol. Thus there is no ground, he declares, for assuming any special local action on the diseased lung from administration of guaiacol, the terpene preparations, etc. At the same time he reports research which has demonstrated that intake of salt, increasing the salt content of the blood, is followed by an increase in the proportion of salt in the sputum and by an increase in the amount of the sputum. On a salt-poor diet the salt content of the sputum is reduced and the total amount drops to a third of the former quantity.

145. **The Energy of the Pulse in Horse-Power.**—Christen has applied to the study of the pulse the mechanical principle of measurement of energy by horse-power. As the heart action is such a small fraction of the accepted horse-power unit, he uses as the unit the force required to raise 1 gm. to a height of 1 cm. in 1 second. He applies the cuff to the largest part of the calf. The cuff is inflated by a hermetically connected and closed graduated syringe, and the manometer used is of the most sensitive type, working with the least possible friction and inertia. He calls the combined apparatus the energometer, and adds that the findings are not only the record of the mechanical energy of the pulse wave but that a new kind of curve results which throws light on certain elements of the pulse, especially what he calls the stasis curve (*Stauungskurve*), which is a mathematically exactly defined curve as he explains in detail. The resulting tracings record six properties of the pulse, five of which, he states, are entirely new and open new horizons for clinical research.

Zentralblatt für Chirurgie, Leipsic

December 24, XXXVII, No. 52, pp. 1633-1656

152 Lever Apparatus for Reduction of Fractures. (Hebelapparat zur Beseitigung der Dislocatio ad latus bei Knochenbrüchen.) M. Kirschner.
153 Rib for Plastic Operation on the Chin. (Kinnbildung bei Mikrognathie.) P. Esau.

Zentralblatt für Gynäkologie, Leipsic

December 24, XXXIV, No. 52, pp. 1673-1704

154 Necessity for Anaerobic Cultures in Obstetrics and Gynecol- [illegible] Kulturverfahrens in [illegible]lamm.
155 *V[illegible] O. Goldberg.

155. **Vaginal Cesarean Section in Eclampsia.**—Goldberg reports three cases of eclampsia in which the convulsions were promptly arrested by vaginal Cesarean section. One patient had had eclampsia at a preceding childbirth, the convulsions ceasing then also immediately after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 18, XXXI, No. 149, pp. 1577-1584

156 Urethroscopy in Diagnosis and Direct Treatment of Chronic Urethritis. Commenced in No. 153. F. Cuturi.

December 20, No. 152, pp. 1609-1616

157 Glycosuria and Diabetes. G. A. Pari.

December 22, No. 153, pp. 1617-1624

158 Roentgen-Ray Treatment in Internal Medicine. G. Lucibelli.

Policlinico, Rome

December, XVII, Medical Section No. 12, pp. 525-568

159 Origin of Tube-Casts. I. G. Rosco.
160 Mechanism of Epinephrin Vasoconstriction. G. Cardone.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXXII, No. 1, pp. 1-176 and Supplement

161 Salvarsan in Syphilis. C. Boeck.
162 Syphilis in Animals. (Dyresyfilis.) R. Krefting.
163 *Oxyuris as Cause of Ileus. J. Roll.
164 *The Use of Sulphuric Acid in Industrial Preparations of Food. (Om anvendelsen av [illegible] nydelsesmiddelindustrien.) S. [illegible]
165 *Normal and Pathologic Anatomy [illegible] Bundle. (Den atrio-ventriculære muskelforbindelse i menneskehjertet.) G. H. Monrad-Krohn.

163. **Oxyuris as Cause of Fatal Ileus.**—In Roll's case the patient was a young woman who did not seem to benefit by the laparotomy for the assumed perforation peritonitis. No perforation was found and the symptoms of ileus persisted. Necropsy revealed a hemorrhagic tumor, the size of an almond, in the small intestine, evidently the reaction of the tissues to the presence of a parasite, the resulting changes obstructing the lumen.

164. **Sulphuric Acid in Articles of Food.**—Schmidt-Nielsen has been investigating to find how much sulphuric acid is left in various articles of food when the acid has been used in its manufacture. In various brands of syrup he found from traces up to 84.6 mg. in 100 gm. of the syrup. This highest figure was the average from five specimens of "American glucose." He also found from traces up to 182 mg. in eleven varieties of dried fruits and up to 299.8 mg. in various other substances, gelatin, etc., the largest proportion being found in pressed hops.

165. **The Auriculoventricular Bundle of the Human Heart.**—Monrad-Krohn reports the results of study of the normal and pathologic anatomy of the bundle of His, etc., his material embracing forty-one hearts, including four with a preceding history of the Adams-Stokes syndrome, and one with a possible history of the kind. In the latter case there was fatty and vacuolar degeneration of the main bundle and a large infarct in the interventricular septum. In three of the four cases with a history of pronounced Adams-Stokes syndrome he found deposits of lime, the lime foci compressing and crowding out the muscular fibers. In the fourth case no lesion in the bundle could be discovered. The article is profusely illustrated and the author describes an improved technic for examining this region.

Ugeskrift for Læger, Copenhagen

December 22, LXXII, No. 51, pp. 1607-1640

166 Two Cases of Leukemia in One Household. V. Bie.

December 30, No. 52, pp. 1641-1660

167 *The Parathyroids Not Responsible for Tetany in Children. G. Jørgensen.

167. **The Parathyroids Not Responsible for Tetany in Children.**—Jørgensen criticizes recent communications on the connection between the parathyroids and the development of tetany. He shows that Yanase's material does not sustain his assumption in regard to the causal rôle of the parathyroids as lesions in these glands were discovered in only nine of the fifty children he examined. The other changes in the glands described were too trivial to be considered as having causal significance. In a case of tetany in Jørgensen's experience with fatal laryngospasm, the four parathyroid glands were found entirely normal even in 1,000 sections under the microscope, and he cites other authors who have found the glands normal in fatal cases of tetany.

Upsala Läkareförenings Förhandlingar

XVI, No. 3, pp. 137-230. Last indexed Jan. 21, p. 232

168 *Combination of Bronchial Asthma and Pulmonary Tuberculosis. I. Hedenius.
169 Housing Conditions in Upsala. (1907 års bostadsundersökning i Upsala.) K. A. Edin.

168. **Combination of Bronchial Asthma and Pulmonary Tuberculosis.**—Hedenius has five patients presenting this combination and discusses the means of distinguishing it from the dyspnea of pulmonary tuberculosis on the one hand and, on the other hand, from symptoms suggesting pulmonary tuberculosis with merely existing asthma. The coincidence seems to be casual except that possibly tuberculous glands may have something to do with bringing on the asthma. Neither affection seems to influence the course of the other except that the asthma may subside and disappear as the tuberculous process becomes installed in the lungs. In one of his cases the asthma of twenty years' standing subsided entirely after the onset of the tuberculosis.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Text-Book of Nervous Diseases for Physicians and Students. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

Preparation of the Cod and Other Salt Fish for the Market. Including a Bacteriological Study of the Causes of Reddening. By A. W. Bitting, Inspector, Bureau of Chemistry. Bull. 133, Bureau of Chemistry, U. S. Dept. of Agric. Paper. Pp. 63, with illustrations. Washington: Government Printing Office, 1911.

Notes on Dental Metallurgy. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School, [illegible] Price, $2 net. Pp. 213. New York: William Wood & C[illegible]

Hay Fever and Paroxysmal Sneezing (Vason[illegible]itis). By Eugene S. Yonge, M.D., Physician to the Ma[illegible]ospital for Consumption and Diseases of the Throat. Clot[illegible]2 net. Pp. 150, with illustrations. New York: William W[illegible], 1910.

Human Embryology and Morphology. By Arth[illegible] Keith, M.D., F.R.C.S., Lecturer on Anatomy, London Hospital Medical College. Second Edition. Cloth. Price, $3.50 net. Pp. 402, with 316 illustrations. New York: Longmans, Green & Co., 1910.

Proceedings of the Fourth Annual Meeting of the Association of Life-Insurance Presidents. (Robert Lynn Cox, General Counsel and Manager, New York.) Held in the Hotel La Salle, Chicago, Dec. 9 and 10, 1910. Paper. Pp. 215.

The American Year-Book. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

Manual of Diseases of Women. By W. E. Fothergill, M.D., Assistant Gynecological Surgeon, Royal Infirmary, and the St. Mary's Hospital. Cloth. Price, $3 net. Pp. 433, with 144 illustrations. New York: William Wood & Co., 1910.

How to Prepare a Paper for Publication. Read at the Marine Biological Laboratory, Wood's Hole, Mass., July 5, 1910. By C. Bowyer Vaux. Paper. Sent Gratis. Pp. 20. Baltimore: Williams & Wilkins Co., 2427 York Road, 1910.

Fortschritte der naturwissenschaftlichen Forschung. Herausgegeben von Dr. E. Abderhalden, Berlin. Zweiter Band. Paper. Price, 12 marks. Pp. 364, with 72 illustrations. Vienna: Urban & Schwarzenberg, 1911.

Die Therapie der Syphilis. Ihre Entwicklung und ihr gegenwärtiger Stand. Von Dr. Paul Mulzer in Berlin. Mit einem Vorwort von Dr. P. Uhlenhuth. Paper. Price, 2.80 marks. Pp. 100. Berlin: Julius Springer, 1911.

Deutsches [illegible] [illegible]te Ausgabe 1910. Paper. Price, 3.90 marks. [illegible] R. v. Deckers Verlag, G. Schenck, Königlicher [illegible], [illegible].

Report of the President of the Board of Health of the Territory of Hawaii. For the Twelve Months Ended June 30, 1910. Paper. Pp. 172. K. B. Porter, Secretary.

Publications of the Library of Congress Issued Since 1897. January, 1911. Paper. Pp. 45. Washington: Government Printing Office.

The Proceedings of the Charaka Club. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.

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SURGICAL DISEASES OF THE UMBILICUS *

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In the summer of 1904 I removed from a man 42 years of age an umbilical growth which on histologic examination was found to be an adenocarcinoma. Being at a loss to account for a glandular growth at the umbilicus, and at the time being unfamiliar with the fact that cancers of some of the abdominal organs sometimes give rise to metastases at the umbilicus, I started to review the literature of diseases of the umbilicus. It was my intention to present to the Section a digest of these studies, but, notwithstanding the fact that few surgeons have observed more than one or two pathologic conditions of the umbilicus, I found that the sum total gives such an abundant and varied material that to do the subject justice and to consider it carefully from all standpoints would require several hours.

Undoubtedly one of the best articles on the umbilicus is that by Reginald Fitz,[1] published in 1884. Other valuable contributions have also been published by Freer[2] and by Morris.[3]

The French have dealt with the subject in a most exhaustive manner, and especially good articles have been published by Villar,[4] Lannelongue and Frémont,[5] and by Quénu and Longuet.[6] In the German literature the articles of Kolaczek,[7] Küster,[8] Hertz,[9] Ledderhose,[10] Tillmans,[11] Pernice,[12] Siegenbeek van Heukelom[13] and Schroeder[14] stand out prominently.

On this occasion, then, I shall limit myself to the consideration of pathologic pictures due to partial or total lack of closure of the omphalomesenteric duct and to primary and secondary cancer of the umbilicus.

NON-MALIGNANT ABNORMALITIES OF THE UMBILICUS

Adenoma of the Umbilicus.—Occasionally when the cord comes away a small red, pedunculated nodule is found springing from the umbilical depression. This nodule may be the size of a pea, a small cherry or a red raspberry. It is bright red in color, has a velvety surface, secretes a small amount of mucus and is attached to the umbilical depression by a delicate pedicle. On pressure this small nodule is firm and velvety. On histologic examination the outer surface is found to be covered with mucosa identical with that lining the small intestine. There is an outer covering of cylindrical epithelium, and then come the typical Lieberkühn glands with the intervening stroma. Beneath the mucosa is a certain amount of fibrous tissue and the center is composed of non-striped muscle fibers.

Funnel-shaped Umbilicus.—Sometimes after the cord comes away the nurse notices that the umbilicus is somewhat moist and on investigation the umbilical depression is found to be deeper than usual. The outer portion is covered with normal skin, the deeper portion of the funnel has a reddish, velvety lining and partially filling the cavity is a transparent, slightly tenacious mucus. Sections from the red lining show that it consists of a mucosa identical with that of the intestine and that it has an outer coat of non-striped muscle fibers.

Cystic Cavities in the Abdominal Wall at the Umbilicus.—In a few cases there was noted a slight watery discharge from the umbilicus and on examination a small fistulous opening was detected leading directly inward for from one to several centimeters. These cavities were partially filled with mucus, and were lined with a velvety membrane which proved to be intestinal mucosa. These cystic spaces may lie external to or beneath the aponeurosis and in at least one instance the cystic cavity had no connection with the outside.

Meckel's Diverticulum.—As is well known, Meckel's diverticulum, when present, usually projects from the convex surface of the ileum a few inches from the ileocecal valve and represents a portion of the omphalomesenteric duct which has never closed. It may or may not have a mesentery. Its tip may be free or attached to the umbilicus by delicate threads—remnants of the omphalomesenteric arteries and veins or of the outer portion of the omphalomesenteric duct which has not totally disappeared. Meckel's diverticulum may extend up to and be firmly attached to the peritoneum at the umbilicus.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

1. Fitz, Reginald: Persistent Omphalomesenteric Remains: Their Importance in the Causation of Intestinal Duplication, Cyst-formation and Obstruction, Am. Jour. Med. Sc., 1884, lxxxviii, 30.
2. Freer, James A.: Abnormalities of the Urachus, Ann. Surg., 1887, v, 107.
3. Morris: Malignant Diseases of the Navel as a Secondary Complication. Ann. Surg., 1892, xv, 326.
4. Villar: Tumeurs de l'ombilic, Thèse de Paris, 1886.
5. Lannelongue and Frémont: De quelques variétées de tumeurs congénitales de l'ombilic et plus spécialement des tumeurs adénoïdes diverticulaires, Arch. gén. de méd., 1884, Siegenbeek 7, xiii, p. 36.
6. Quénu and Longuet: Du cancer secondaire de l'ombilic, Rev. de chir., 1896, xvi, 97.
7. Kolaczek: Zwei Entero-Teratome des Nabels, Arch. f. klin Chir. (Langenbeck's), 1875, xviii, 349.
8. Küster: Die Neubildungen am Nabel erwachsene und ihre operative Behandlung, Arch. f. klin. Chir., (Langenbeck's), 1874, xvi, 234.
9. Hertz: Ueber einen Fall von Adenocarcinom des Nabels bei einer 58-jährigen Frau, Inaug. Diss., Würzburg, 1905.
10. Ledderhose: Chirurgische Erkrankungen des Nabels, Deutsche Chirurgie, 1890, Instalment 45 b
11. Tillmanns: Ueber angeborenen Prolaps von Magenschleimhaut durch den Nabelring (Ectopia ventriculi) und über sonstige Geschwülste und Fisteln des Nabels, Deutsch Ztschr. f. Chir., 1882-1883, xviii, 161.
12. Pernice: Die Nabelgeschwülste, Halle, 1892.
13. Siegenbeek van Heukelom: Die Genese der Ectopia ventriculi am Nabel, Virchows Arch. f. path. Anat., 1888, cxi, 475.
14. Schroeder: Ueber die Divertikel-Bildungen am Darm-Kanale, Inaug. Diss., Augsburg, 1854.

Intestinal Cysts.—Intestinal cysts occasionally occur. Meckel's diverticulum may be nipped off and form a closed sac lined with intestinal mucosa having muscular walls and an outer peritoneal surface. Several such cases are on record. These cysts usually contain nothing but mucus, indicating that they have been cut off at an early period, at a time when no meconium is present in the intestine.

Patent Omphalomesenteric Duct.—A large number of cases belonging to this class have been reported. In some the cord is of unusual size at the umbilicus and shortly after it has dropped off a red mass is found. This is sometimes very small; in other cases one centimeter or more in diameter. It usually projects about 1 cm. from the surface, but in some cases is fully 4 cm. long. In the center is a depression into which a sound can be passed for several centimeters. At first only mucus escapes, but later more or less fecal matter. Where the opening is small and a projection is scarcely noticeable only a faint moisture may be noted.

In several cases in which this very small opening large existed numbers of roundworms and occasionally a tapeworm have escaped through the fistulous tract.

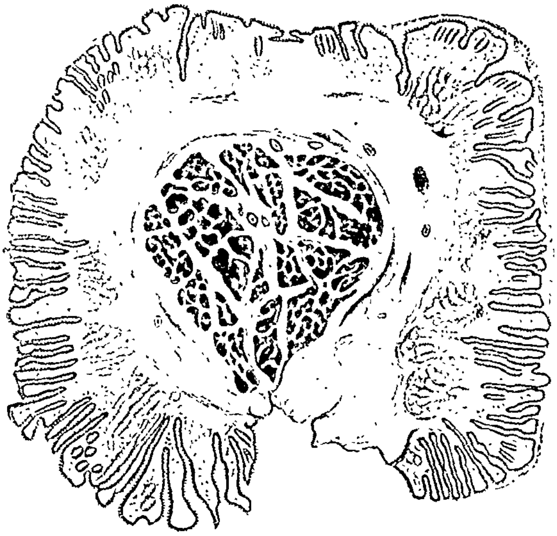

Fig. 1.—Adenoma of the umbilicus. The specimen represents a transverse section through a so-called adenoma of the umbilicus. The central stem is made up of non-striped muscle fibers cut transversely. Surrounding this is a zone of fibrous tissue and the outer surface is covered by a mucosa consisting essentially of glands of the small intestine. (Lannelongue and Frémont: Arch. gén. de méd., 1884, cliii, 62.)

Prolapsus and Invagination of the Small Bowel Through the Omphalomesenteric Duct.—If the fistulous opening be large, serious consequences usually follow. When the cord comes away a red nodule at the umbilicus is noted and fluid escapes. Fecal matter is usually passed through the rectum. In the course of a few days, when the child cries or strains, the umbilical picture changes and a little dome-like elevation is seen in the fistulous tract and in a short time a sausage-like mass several inches in length may be seen literally rolling out of the abdomen. This represents the small bowel which is being turned inside out through the fistulous opening. At either end of this sausage-like mass one finds a lumen, the upper and lower ends of the prolapsed part of the bowel. If one were able to put a hand into the abdomen the minute the bowel begins to invert and make gentle traction, the bowel would at once turn in and become straight, with the fistulous tract passing off at right angles and ending at the umbilicus. As one may surmise, fecal matter comes from the upper end of the prolapsed bowel, nothing but mucus from the lower end and sometimes mucus and possibly a little blood from the rectum. The child dies in from one to three days with signs of shock and occasionally of a general peritonitis.

Origin of Adenoma of the Umbilicus.—The term "adenoma" is a misnomer, but as the name has been used so long it has been generally accepted. When we remember the funnel-shaped umbilical depression with the intestinal mucosa in the depth, and also remember that it is the outer portion of the omphalomesenteric duct which has remained open, it is only necessary to realize what may take place when the umbilicus is gradually closing in. This funnel of mucosa may be forced outward and turn inside out. The inner lining of mucosa now becomes the outer surface and the outer muscular walls become the center of the pedicle. This is exactly the condition found when these adenomata are present.

Treatment of Remains of the Omphalomesenteric Duct.—Adenomata may be ligated. If so treated they usually drop off in a few days. They may be ligated and at once cut off. It is always important to ligate, as the pedicle usually contains vessels of goodly size. In all such cases the parents should be cautioned to watch the child carefully because in a certain percentage of these children a Meckel's diverticulum exists and is firmly attached to the umbilicus. If at any time signs of intestinal obstruction develop an exploratory section should at once be performed. Several cases have been

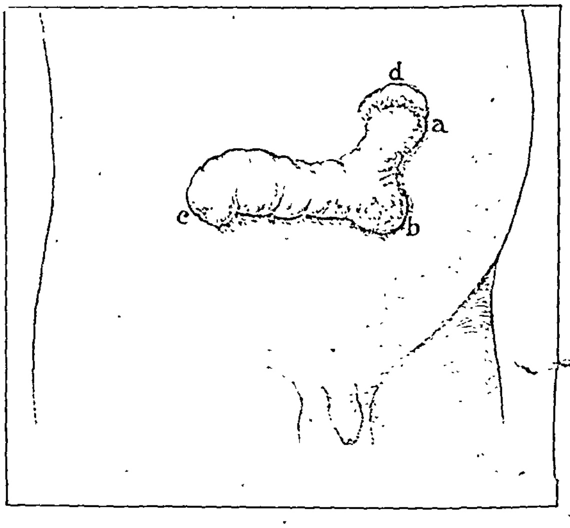

Fig. 2.—Inversion of the patent Meckel's diverticulum and its complication with intestinal prolapsus. A tumor was noticed at the umbilicus as soon as the cord came away. Through this opening fecal matter escaped. There were also normal stools by the rectum. This tumor was 1 cm. long, blood-red in color, velvety, and looked like injected intestinal mucosa. It was 1.5 cm. in diameter and a probe passed in 4 cm. Five days later the small tumor had been transformed into the sausage-like mass noted in the figure. Projecting from the umbilical ring was a cylindrical tumor 2.5 c.m. long and 1.75 cm. thick. This tumor, *a*, was continuous with the sausage-like cylindrical tumor *b*, *c*. The tumor was dark red and covered over by mucosa which bled easily. Funnel-like openings were present at points *b* and *c*. The opening at *b* passed inward through a canal in the tumor *a* and then was continuous into the abdominal cavity. From the opening at b fecal matter escaped. At *d* was a blind projection. The child was observed for several days and as a result of crying more loops of intestine came down. An attempt was made to carry these back into the abdomen and the bowel was injured. From this description it is seen that there was a prolapsus of the inverted intestine. The child died sixty hours after operation. (Arthur Barth: Deutsch. Ztschr. f. Chir., 1887, xxvi, 195.)

reported in which small adenomata existed, attached by a fibrous cord to a Meckel's diverticulum.

Where a funnel-shaped umbilicus is present and the deeper portion is lined with mucosa it seems advisable to make an elliptical incision, removing the entire area and at the same time exploring to see if Meckel's diverticulum is attached to the umbilicus. If so, it should be removed.

In those cases in which a very small fecal fistula is present it may be advisable to wait a few months to see if it will not close. If it is still open at the expiration of six months it should be dissected out down to the ileum and removed. Even should it close the child should be carefully watched for signs of obstruction.

Where the fistulous opening is large it should be removed at once. With the child in good condition the danger is not very great. When prolapsus of the bowel with inversion has occurred, however, as a rule signs of shock have already supervened and the chances of success even with operation are very remote.

MALIGNANT GROWTHS OF THE UMBILICUS

These may be divided into four varieties:

1. Primary squamous-cell carcinoma.
2. Primary adenocarcinoma.
3. Sarcoma.
4. Secondary carcinoma.

Primary Squamous-Cell Carcinoma.—Cases have been reported. They are very rare and even in the majority of the supposedly authentic cases there is doubt as to the accuracy of the diagnosis. The gross appearance is identical with that of a skin cancer elsewhere. The process seems to be a slow one and on histologic examination the typical appearance of squamous-cell growth is clear.

Primary Adenocarcinoma of the Umbilicus.—This appears to be more frequent than that of the squamous-cell type. Here also much confusion exists from the fact that the umbilical growth may be nothing more than a secondary manifestation of a primary growth in one of the abdominal organs. As has been pointed out in the preceding paragraphs glandular remnants of the omphalomesenteric duct are often present at or near the umbilicus and one would naturally expect that these should occasionally undergo malignant changes.

Bonvoisin[15] observed a case in Tillaux's clinic that seemed without doubt to be a primary umbilical carcinoma. A man, 64 years old, had been ill for two months. At the umbilicus was a brawny excrescence. When the nodule was first noticed it was no larger than a pea. In fifteen days it had ulcerated and the surrounding skin was eczematous. On his admission to the hospital the umbilical zone was replaced by a shallow ulcer with a blackish crust and surrounding this was an inflammatory zone. The entire mass was as large as a five-franc piece and immobile. The nodule was removed but the man died. At autopsy no peritonitis was found and careful examination failed to reveal any primary carcinoma in the abdomen. Ducellier, who examined the specimen, came to the conclusion that the growth was a primary adenocarcinoma of the umbilicus originating from remains of the omphalomesenteric duct.

Sarcoma of the Umbilicus.—Pernice, in his splendid monograph, says that he was able to collect accounts of only six cases. On reading over the reports of these cases, however, one cannot help gathering the impression that most of the growths were in reality fibromata. The evidence of their sarcomatous nature is hardly sufficient to be convincing.

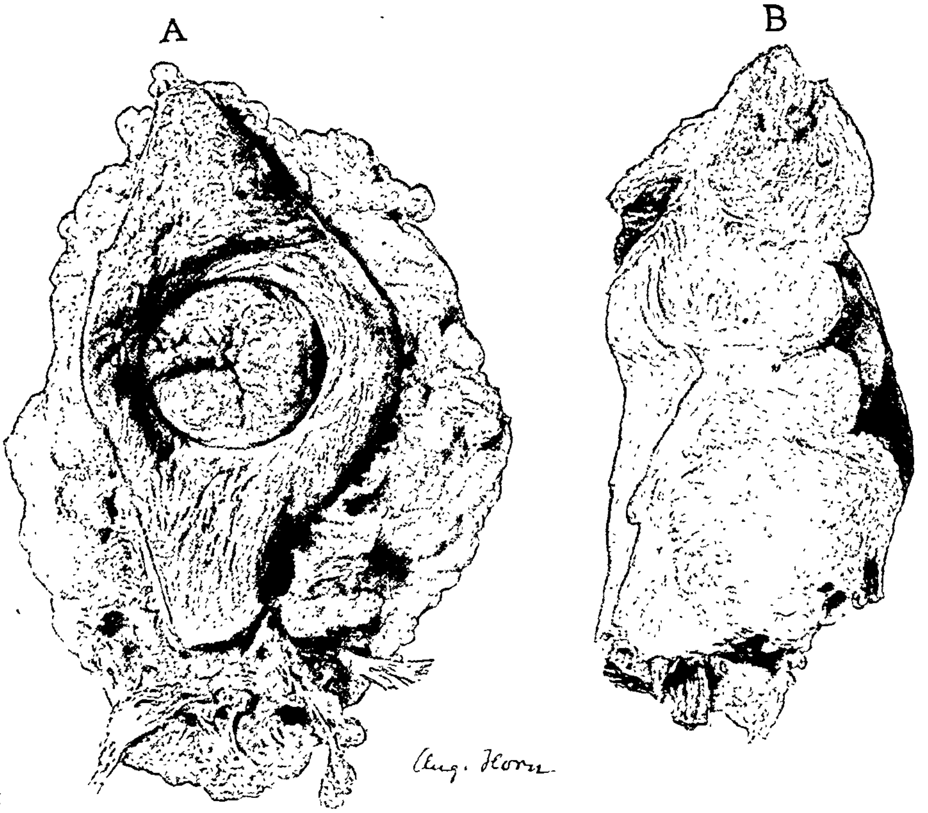

Fig. 3.—Secondary carcinoma of the umbilicus. Natural size. (Path. No. 15029. Specimen sent by Dr. Haggard of Nashville, Tenn., April, 1910.) The umbilical fold is much widened and the umbilicus is shallower than usual. It presents a somewhat uneven and nodular appearance, but is everywhere intact. To the right is a longitudinal section through the umbilicus. There is a deep cleft along the skin surface and the umbilical fold is deeper than usual. The fat in the depth has been replaced to a large extent by fibrous tissue, which is everywhere infiltrated by carcinoma. The peritoneal surface, which is to the left, is perfectly smooth; there is not the slightest evidence of any adhesions.

Leydhecker[16] reported the case of a girl of 14, poorly nourished, who had a nodule at the umbilicus. This grew slowly until nine months before operation, when it suddenly became painful and rapidly became larger. At operation the tumor was found to be oval and the size of an orange. It was smooth and slightly pendulous. The skin over the tumor was very thin and bluish-red. Over the lower part of the tumor were ulcerated areas covered with blood and pus. The tumor lay on the superficial fascia. On section it was yellow, homogeneous and resembled pork. Histologically it proved to be a spindle-celled growth. It was probably a sarcoma. The subsequent history was not recorded.

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[15] Bonvoisin: D'épithélioma de l'ombilic. Thèse. Paris. 1891.

[16] Leydhecker: Zur Diagnose der sarcomatösen Geschwulste, Giessen, 1856.

Secondary Carcinoma of the Umbilicus.—From a clinical standpoint this is by far the most interesting and important pathologic change that may be encountered at the umbilicus. Without a doubt many members of this Section have had one or more patients come to them complaining of an uncomfortable sensation at the umbilicus. On examination some thickening was detected or possibly a small nodule. There was, however, no evidence of any inflammation and the patient was probably in good health.

Such patients frequently give a history of having had a blow on the abdomen or a sudden abdominal strain a few months before this thickening was noted. If a careful history be elicited, we shall learn that for several months they have had some indigestion or a little vomiting, although in some cases these symptoms may be entirely wanting. In other cases the umbilical discomfort was the first thing that in any way inconvenienced the patient. Shortly after the nodule is detected signs of indigestion usually manifest themselves, and the patient loses weight and dies. The diagnosis may still be in doubt, but an autopsy will usually reveal a carcinoma of the stomach, which in many of the cases has been latent, and which occasionally has given rise to no local manifestations whatever.

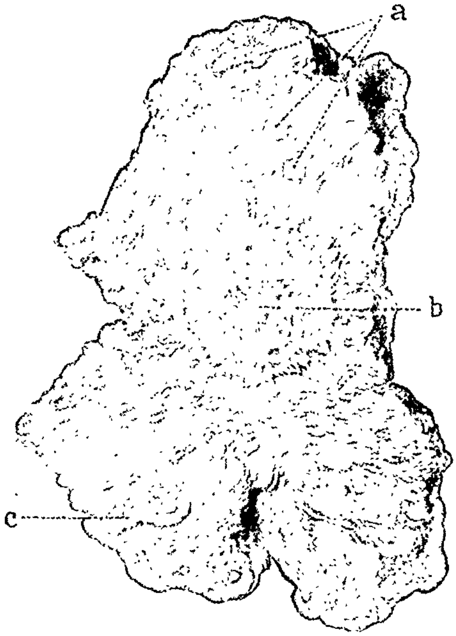

Fig. 4.—The section shows carcinoma of the right inguinal glands. Scattered throughout the adipose tissue are several solid areas. Those indicated by *a* are small lymph-glands. The lymph-gland at *b* is greatly enlarged, and everywhere infiltrated by carcinoma which is invading the surrounding tissue; *c* is also an area of carcinoma.

In these cases the carcinoma has extended to the under surface of the liver either by the lymphatics or by continuity. It has then traveled along the suspensory ligament to the umbilicus. The umbilical growth, accordingly, lies extraperitoneally between the peritoneum and the fascia. From this point it gradually spreads through the surrounding fat as a rather diffuse growth. This growth on section reminds one more of dense fibrous tissue than of a carcinoma (Figs. 3, 5 and 6.) In the rly stages there are no definite discrete foci that could be recognized as carcinomatous. Their absence is due to the fact that the glands are so thoroughly scattered throughout the fibrous tissue. Rarely in the early stages is the peritoneum implicated. In each of the three illustrations the peritoneum was perfectly smooth.

After the umbilical nodule has been in existence for several months the lymph-glands may be implicated. The superficial lymphatics from the upper part of the umbilicus pass to the axillary glands; those from the lower portion to the inguinal glands. The deep lymphatics pass either to the retrosternal or iliac glands.

Cancer of the stomach may occasionally become adherent to the anterior abdominal wall and involve the umbilicus by continuity. While a gastric cancer is the most frequent cause of secondary growth at the umbilicus, cancer of the small or large intestine or of the uterus or ovaries may be followed by a secondary umbilical growth. In these cases the extension to the umbilicus may be by way of the lymphatics, by continuity or through secondary involvement of the omentum. In several cases the omentum has been caught in an umbilical hernia and the incarcerated nodule has involved the umbilical peritoneum. In one case at least the umbilical cancer was secondary to a malignant growth of the gall-bladder.

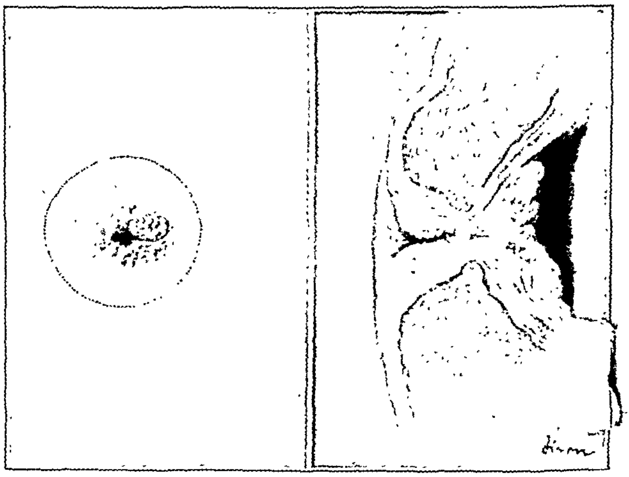

Fig. 5.—Adenocarcinoma of the umbilicus. The umbilicus looks very much like an inverted carcinomatous nipple. The margins present a fine nodular appearance. The dotted line indicates the limits of the induration. On the right is a longitudinal incision through the umbilicus. There is much thickening due to carcinomatous infiltration. The peritoneum beneath the umbilicus was free from adhesions.

Tisserand[17] saw a woman, 54 years of age, who had been suffering from pain in the umbilical region for five months. The umbilicus was very red, slightly painful and indurated. An exploratory operation was performed and the patient died suddenly on the tenth day. Cancer of the gall-bladder was found. This viscus also contained gall-stones. The glands along the suspensory ligament to the umbilicus looked like beads. No trace of cancer was detected in any other organ.

In my last case the umbilical cancer was secondary to cancer of the gall-bladder.

In the cases in which the patient remains alive for a long period, or in which the abdominal growth is a rapid one, the gastric cancer may break through and an abscess develops usually between the liver, stomach, transverse colon and lateral abdominal wall. This abscess may find its way to the umbilical opening and form a permanent fistula. In those cases in which the stomach has become adherent to and involves the umbilicus by continuity the growth may be very rapid. There is first the thickening at the umbilicus and the overlying skin becomes fixed. Next there may be some reddening, fever, fluctuation and the physician or surgeon, thinking he is dealing with an abscess, opens it. A small amount of bloody serous fluid escapes; later particles of food may be detected. The growth occasionally wells up out of the fistulous tract, forming a cauliflower-like mass and the surrounding skin becomes markedly excoriated. Such a termination, however, is not common.

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[17] Tisserand: A propos de deux cas de cancer secondaire de l'ombilic, La Loire méd., 1906, xxv, 131.

In the specimen sent me by Dr. Haggard, of Nashville, the umbilicus, apart from being much larger than usual and being markedly indurated, shows little change. The umbilicus in my first case was moist, and had little granular projections springing from it. In my second case the umbilicus was only slightly enlarged and the thickening could not be detected until the umbilicus was lifted up between the fingers. In my first case I removed the umbilicus thinking that it was the seat of a primary growth. In my second case it was removed on account of the severe pain experienced by the patient.

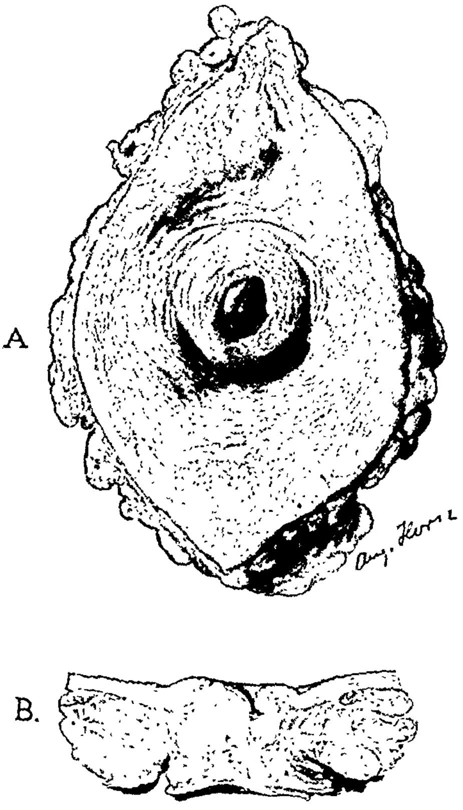

Fig. 6.—Appearance of the carcinomatous umbilicus after removal. Natural size. Path. No. 14968. A. The parts are slightly distorted from the action of the hardening fluid and the umbilicus comes out more prominently than it really did in the patient. There is, however, a slight unfolding of the umbilicus and one part seems somewhat raised. The umbilicus itself, however, was perfectly intact. B. A transverse section through the umbilicus. The half to the left is more prominent and represents the elevation noted in the umbilical depression. The surface, however, is intact. There is an increase in the amount of connective tissue, but no evidence of any definite nodule. Histologic examination showed that this area was everywhere infiltrated with carcinomatous glands.

From what I have said, then, it is evident that there are two very important clinical factors to be considered. If an umbilical nodule be detected in a middle-aged person, the condition of the abdominal organs must at once be most thoroughly investigated. If moderate or marked indigestion exists cancer of the stomach may be suspected. If frequent jaundice has been present the possibility of cancer of the gall-bladder following gall-stones may be thought of as the causative factor. Marked intestinal symptoms will naturally suggest a growth in the small or large intestine, and a pelvic examination will tend to exclude or confirm the probability that the uterus or ovaries may be responsible for the umbilical growth.

The last case came under my observation a few weeks ago after my attention had been especially directed to this subject. The typical history of gall-stones coupled with the non-inflammatory umbilical thickening at once suggested carcinoma and I made a provisional diagnosis of cancer of the stomach or gall-bladder associated with gall-stones and interpreted the umbilical growth as a secondary manifestation. At operation I found gall-stones, cancer of the gall-bladder with involvement of the periportal lymph glands, and small metastases in the lesser omentum; histologic examination also revealed the presence of a secondary adenocarcinomatous growth at the umbilicus.

The second point this study brings out strongly is the futility of removing the umbilicus when the primary growth is in the abdomen. If one can positively say that cancer of an abdominal organ exists, removal of the umbilical growth is of little value because the disease is already too wide-spread to permit of total eradication. On the other hand, in some of the cases the symptoms are so obscure that a diagnosis cannot be ventured until an exploratory operation has been performed; and again, in cases such as my last one the chief pain is referred to the navel region and removal of the umbilicus is followed temporarily by comfort.

SECONDARY ADENOCARCINOMA OF THE UMBILICUS; ILLUSTRATIVE CASES

CASE 1 (Path. No. 15,029).—The specimen sent me by Dr. Haggard of Nashville, Tenn., in April, 1910, consists of the umbilicus with a good deal of surrounding tissue. The entire specimen measures 10 cm. in length, 7 cm. in breadth. The umbilicus is 2.5 cm. across and is covered with skin. It presents a rather uneven, nodular surface, and is much more prominent than usual, having welled up in the center (Fig. 3). There is, however, no evidence of ulceration at any point. On section the distance between the umbilicus and the peritoneal surface is 2 cm. The tissues look fibrous and in the vicinity of the umbilicus show infiltration apparently with fibrous tissue. At one point is an area of what looks like localized fibrous thickening 2.5 cm. in diameter. The adipose tissue has been almost entirely replaced at this point.

Histologic Examination.—The squamous epithelium is intact and there is pigmentation in the deeper layers, suggesting that the specimen has come from a colored patient. The tissue immediately beneath the skin in some places is normal; at other points it shows some small, round-cell infiltration. Scattered everywhere throughout the thickened fibrous tissue are glands. Some of them are small and round, others elongated or tubular; others are dilated. The glands are lined with cylindrical or cuboidal epithelium which in most places is one layer in thickness. The nuclei of the epithelial cells are for the most part oval and stain uniformly. A few of the epithelial cells have very large and deeply staining nuclei. Where the glands are dilated the epithelium tends to become cuboidal. At other points the glands are exceedingly abundant, are undergoing disintegration and are filled with mucus. In some places the epithelium is several layers in thickness. Here and there gland epithelium has proliferated to such an extent that new glands are being formed. The growth is undoubtedly a carcinoma of a glandular type and similar to that originating either in the stomach or intestine.

Case 2.—Secondary carcinoma of the umbilicus; metastases in the right inguinal glands. Mr. G., 42 years of age, was seen in consultation Aug. 30, 1904. The patient was well nourished, and complained of a discharge from the umbilicus. Six weeks before he was struck in the abdomen with a shoe and the umbilicus commenced to discharge three weeks later. The umbilicus itself presented a granular appearance (Fig. 5) and the tissue surrounding it was indurated. The patient had had dyspepsia for years; also pain in the lower abdomen over the appendix. He was admitted to the Church Home. Under anesthesia the inguinal glands were carefully palpated. A definite enlargement was found in the right side. An incision 10 cm. in length was made and the inguinal glands removed, together with the surrounding fat. I then made a long elliptical incision around the umbilicus and removed the umbilical tumor, giving the hardened area a wide berth. The growth at the umbilicus closely resembled a retracted nipple. The patient took the anesthetic badly. Consequently I could not make as thorough an abdominal exploration as desired. With the finger carried in all directions I was unable to detect any thickening.

Histologic Examination (Path. No. 7729).—The umbilical growth proved to be a typical adenocarcinoma. The squamous epithelium in many places was normal, but along the edge of the growth it was impossible to distinguish between the cells of the adenocarcinoma and those of the squamous epithelium. There was as yet little breaking down. The growth in the inguinal glands macroscopically looked like cancer (Fig. 4). On histologic examination it presented exactly the same pattern as that noted at the umbilicus.

On Jan. 25, 1905, the patient was in fairly good health. He still had considerable constipation, however. He also had great difficulty in defecation. February 24, a firm globular mass fully 10 cm. in diameter occupied the middle of the abdomen and the left inguinal glands were considerably enlarged. The umbilical growth was undoubtedly secondary to the intestinal cancer. In May, 1905, I again saw the patient. His bowels had not moved for ten days and he was so emaciated that one would hardly recognize him. The abdominal nodules were everywhere palpable. He died a few days later.

Case 3.—Adenocarcinoma of the umbilicus secondary to carcinoma of the gall-bladder. Mrs. B., aged 58, was seen in consultation with Dr. George L. Wilkins and admitted to the Church Home and Infirmary, April 24, 1910. The patient complained of an "umbilical nodule and of gall-stones." Her past history was negative. The menopause had occurred at 50. The patient had had five children. The first and last labors were instrumental.

The patient showed a slight bulging at the umbilicus on standing. This was painful when the clothes rubbed against it. It was noticed first in December, 1909, that is, about four months before examination. For some months the patient suffered at intervals with pain in the region of the gall-bladder and had been jaundiced. The pain radiated to the back and to the right shoulder. At the time of examination there was some tenderness in the gall-bladder region. She suffered from the presence of gas and from constipation. There had been no clay-colored stools. The heart and lungs were normal. The urine was practically normal.

From the history and general condition a provisional diagnosis was made of either cancer of the stomach or of the gall-bladder, associated with a secondary nodule at the umbilicus. On examination of the umbilicus there was just a slight rolling out, but nothing to suggest a nodule until one picked the umbilicus up between the fingers, when marked sensitiveness became apparent (Fig. 6).

Operation.—April 25, 1910, on making a right rectus incision I at once encountered little nodules in the lesser omentum. The gall-bladder contained numerous stones and also a new growth. The new growth was firm and had extended to the lymph-glands around the portal vein. One of these was over 3 cm. in diameter. We were dealing with a carcinoma of the gall-bladder, together with metastases in the lesser omentum and the umbilicus. On account of the marked involvement of the lymph-glands complete removal of the primary growth was impossible. As the patient had had a great deal of pain in the umbilicus, this was removed. The inner or peritoneal surface of the umbilicus was free from adhesions. The patient made a good temporary recovery and was discharged May 9, 1910.

Pathologic Examination (Path. No. 14968).—The specimen consists of the umbilicus and surrounding skin. It is 7 cm. in length, 5 cm. in breadth. The umbilicus is slightly prominent. It is commencing to unfold a little as seen in Fig. 6. It was not quite so prominent, however, in the fresh state. The nodule could be readily felt on lifting the umbilicus up with the fingers. It appeared to be about 1 cm. or more in diameter. In the hardened specimen the tissue was contracted, bringing the effect out more prominently. The skin was everywhere intact. The peritoneal surface was slightly puckered, but was free from adhesions. On section of the umbilicus the tissue looked fibrous and in its middle portion was what appeared to be a little area of hemorrhage about 2 mm. in diameter. At first sight one would not for a moment suspect the presence of carcinoma.

Histologic Examination.—The squamous epithelium is intact and immediately beneath it in a few places are some sweat-glands. Approaching the peritoneum colonies of glands are found closely packed together with very little connective tissue between them. The gland epithelium is for the most part one layer in thickness. In some places it is cuboidal, at other points cylindrical, and there are very minute glands. The nuclei of the epithelial cells stain uniformly, but vary considerably in size. In some places the epithelial cells seem to have a tendency to be arranged in single rows. The growth is without doubt a carcinoma. The small metastatic nodules found in the lesser omentum in the neighborhood of the gall-bladder present a precisely similar appearance. We are undoubtedly dealing with a primary carcinoma of the gall-bladder, involving the lymphatics around the portal vein. There have been metastases in the lesser omentum and also involvement of the umbilicus.

3 West Preston Street.

ABSTRACT OF DISCUSSION

Dr. W. D. Haggard, Nashville, Tenn.: The specimen which I sent to Dr. Cullen was removed in 1903. Histologic examination proved it to be a case of primary carcinoma of the umbilicus. The man, 56 years old, had a hard mass at the umbilicus, for which I advised excision. He delayed the operation; acute symptoms of cholelithiasis set in, which he interpreted as coming from the umbilicus; he then asked for an operation. I excised the umbilicus circularly and met with considerable difficulty in closing the wound, because it pulled widely apart in all directions. I was obliged to use Bartlett's wire filigree to effect closure. At the time of operation the gall-bladder contained stones, which were removed, and, as we had so much difficulty in closing the opening, we drained the gall-bladder through the same incision. After five or six months the man had considerable jaundice, which I attributed to the contraction of the scar making traction on the gall-bladder and partially occluding the ducts. He died after seven months from cholemia. The necropsy failed to disclose any other malignant growth in the abdomen.

I had hoped that Dr. Cullen would be able to take up the other pathologic conditions of the umbilicus besides carcinoma. I have had two cases of protrusion of the umbilicus in generalized peritonitis, with simple incision of the umbilicus, for drainage, with cure. One of the patients was a woman, who had had a ruptured appendix, and whom I saw on the eighteenth day. She manifested symptoms of a general peritonitis, with free fluid of the abdomen. The umbilicus presented a pouched-out protrusion. The skin was reddened and thinned. I incised the umbilicus without an anesthetic, evacuated several quarts of fluid, and the patient recovered, which was rather noteworthy because of the very severe general peritonitis. She would not have stood a formal operation. I do not believe there was anything else to do than simply incise the point which Nature had indicated for drainage. This experience was repeated in the second case, the patient being a girl, 13 years of age, who, in the second week of an attack of appendicitis, had a red protrusion of the umbilicus, with signs of free fluid, somewhat as in the first case. We incised the umbilicus, evacuated two quarts of fluid, and she recovered.

Dr. Thomas S. Cullen, Baltimore: Dr. Haggard recently sent me a report of a case in which the purulent peritoneal fluid had escaped through the umbilicus. In reviewing the literature on diseases of the umbilicus I was particularly interested to see the large number of cases reported in which a purulent peritonitis had been evacuated spontaneously through the umbilicus. This was frequently the case in children. In adults, however, it is rare for the umbilicus to give way.

In the short time at my disposal it has been impossible to deal with the subject in full and I have only discussed it from two standpoints. Dermoid cysts of the umbilicus have, from time to time, been reported, but on carefully reading the detailed histories of these cases it seems perfectly clear that in the majority of instances the author was not dealing with a dermoid cyst, but with an umbilical concretion. On picking these concretions apart small pieces of wool or hair and occasionally particles of stone have been detected. The substance in a large measure depends on the occupation of the patient. The outer surface of the concretion in the majority of cases has presented a pearly appearance. This was due to a covering with various layers of exfoliated squamous epithelium. When as a result of irritation by the concretions the umbilicus becomes inflamed, the umbilical opening becomes smaller and smaller, on account of the surrounding inflammation; finally nothing but a pin-point opening remains and later often there is an escape of pus. With the application of poultices or following an incision and escape of the concretion the inflammatory condition disappears.

In some cases in which the omphalomesenteric duct has remained open and is recognized as a very small fistulous tract, roundworms may escape. In several cases from forty to fifty of these worms have come away, and occasionally a tapeworm has made its appearance on the abdomen.

Several other interesting cases are reported in which gallstones have been evacuated through the umbilical opening and in a few instances small hydatid cysts have escaped in this way. Dr. Alexander Hugh Ferguson, Chicago, told me of such a case that came under his observation.

In cases of primary carcinoma of the stomach the growth may travel toward the under surface of the liver, pass along the lymphatics of the suspensory ligament and reach the umbilicus. The umbilical growth consequently lies extraperitoneal between the peritoneum and fascia.

PHYSIOLOGIC IMPLANTATION OF THE SEVERED URETER OR COMMON BILE-DUCT INTO THE INTESTINE *

R. C. COFFEY, M.D.
PORTLAND, ORE.

At the 1909 meeting of the Southern Surgical and Gynecological Association at Hot Springs, Va., I reported a series of experiments on dogs in which various sections of the pancreas had been made and the remaining pancreas had been implanted into the intestine.

In the operation for the removal of the head of the pancreas, it was found necessary to transplant the common bile-duct into the intestine lower down, also to connect the stomach with the intestine lower down; and later the pancreatic implantation was done. In these operations of pancreatectomy and duodenectomy we found it necessary to operate in two stages. After the first operation the common bile-duct was cut off and implanted into the duodenum well below the opening of the pancreatic duct. This was done by direct implantation, using a method similar to one described by Dr. W. J. Mayo some years ago. Gastrojejunostomy was done at this time, also resection of the stomach.

At the second operation, the duodenum and the head of the pancreas were removed and the remaining tail was planted into a loop of intestine. The second stage of the operation was done from two to three weeks after the first. At the second operation it was invariably found that the common bile-duct, which had been implanted at the previous operation, was now distended to the size of a man's finger and in some cases even larger, and the bile was dammed back at low pressure. The common bile-duct and the two hepatic ducts presented the appearance of being simple extensions of the gallbladder. In the first case observed it was taken for granted that stenosis had occurred. When the second case was observed I cut open the duodenum, exposing the opening of the implanted duct, when it was found that the opening was large enough to admit a lead-pencil easily and that the bile was simply dammed back in the duct by the intra-intestinal pressure. As our experiments went on we observed that this condition was constant and present in every case. Five dogs with such a condition were observed later for varying periods and the specimens finally removed and preserved. One of the best specimens shows the bile-duct as large as a man's little finger and with walls almost as thick as an intestine. After observing these things it seemed quite probable that the bile-tract being permanently dilated in this manner might later prove to be a very serious thing as regards the future integrity of the liver. The only conclusions to be reached from the study of these cases, and from the specimens, was that the normal intra-intestinal pressure, when brought to bear directly within the end of the implanted duct, proved more than the strength of the frail bile-duct could withstand; consequently they kept dilating until Nature's law of compensation came to the rescue with a thickened duct wall, and prevented further distention, but not until the distention was sufficient practically to make an intestinal diverticulum of the bile-duct, thus exposing the liver to infection.

This seemed to me a most serious matter, so I set about to devise a plan which would prevent the intra-intestinal pressure being brought to bear directly from within the duct. The first step was to dissect the duodenum and see how Nature had planned this matter. I found that the common bile-duct first penetrated the serous and muscular coats of the duodenum and then passed just under the mucous membrane for approximately three-quarters of an inch before it penetrated the mucous membrane. I found also that the ureters entered the bladder in just such a way. It was readily seen that in these organs the intra-intestinal and intravesical pressure, instead of being brought to bear from within the duct, was brought to bear in a much larger area on the side of the duct, thus making a perfect valve. The next question that arose was: Is it possible to duplicate this artificially? It was found not practicable to pass forceps between the layers of the intestine for the purpose of drawing the duct through. After thinking the problem over for some time, I remembered that during the course of a gastro-enterostomy when the serous and muscular coats are cut and the submucous coat dissected, the mucous membrane pouts out between the cut edges of the wound, making of it a hernia. The following method was therefore devised.

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* Read in the Section on Surgery of the American Medical Association at the Sixty-First Annual Session, at St. Louis, June, 1910

METHOD OF PROCEDURE

First, the duct is located and ligated with linen or silk. It is then cut in two above the ligature and the edges caught and held with mosquito forceps while one wall of the duct is split down with a pair of scissors, as shown in Fig. 1, *a*. A linen suture is now passed through the split end of the duct so as to include about one-half of it, and tied (Fig. 1, *a*). The linen thread is then thrown around the other half and tied (Fig. 1, *b*). The loose ends are then threaded into two needles. By this method the full strength of the duct is retained for traction, while the opening is maintained by the split (Fig. 1, *c*). The end of the duct is now wrapped with gauze while the intestine is prepared for its reception, which is done as follows:

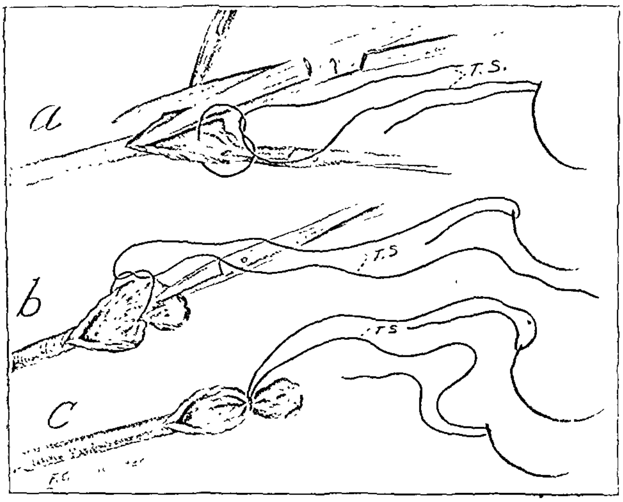

Fig. 1.—Preparing the duct for implantation into the intestine; *a*, splitting the duct to provide for drainage and tying the suture around half of the duct; *b*, tying suture around split duct; *c*, split duct ready for insertion.

The part of the intestine desired is picked up and an incision made down through the peritoneal and muscular coats, including submucous tissue until the mucous membrane pouts out through the incision (Fig. 2). This incision should be about one inch long or more. Second, five or six sutures are passed which pick up the peritoneal and muscular coats on each side of the incision. The suture at the upper end of the incision is tied as a control suture. The intermediate intestinal sutures are lifted up on the flat handle of an instrument as they cross the incision. Now the intestine is brought down close to the end of the split duct and the two needles carrying the threads (traction sutures) on the end of the duct are passed beneath the four or five intestinal sutures and through the stab wound in the mucous membrane into the intestinal lumen and out through the intestinal wall three-quarters of an inch farther along the intestine, and one-eighth to one-quarter inch apart. By making tension on these threads and at the same time pushing the intestine toward the duct, the duct is drawn beneath the intestinal sutures through the stab wound into the intestinal lumen, when the two ends of the threads on the duct are tied on the outside, thus anchoring the end of the duct on the inside of the intestine at this point (Fig. 3). The intestinal sutures are then tied, producing the result shown in Figure 4. After this operation the duct lies just beneath the mucous membrane, which has been loosened for approximately three-quarters of an inch of its course, so that it slides easily in its new channel. It is therefore necessary to tack the ureter to the peritoneum of the intestine near its point of entrance by two or three fine linen or silk sutures. Care should be used to take only the outer coat of the ureter in the bite of these sutures. Thus practically all the steps of the operation are completed before the intestinal mucosa is penetrated and no sutures penetrate the lumen of ureter. The traction suture at the end of the ureter within the intestine and the two or three anchor sutures fastening the duct to the intestinal peritoneum are the only means of retaining the duct in place. The same intra-intestinal force which later prevents regurgitation into the ureter now prevents the intestinal contents from leaking back by the loosely implanted ureter.

To prove the mechanical correctness of the theory of this operation, make a hole in the side of a rubber bag; insert a rubber tube and cement it; cement a flap of thin rubber over the end of the tube (Fig. 5, *a*); connect a fountain syringe filled with fluid with the tube and fill the bag (Fig. 5). If the syringe is now disconnected it will be found that no leakage from the tube takes place (Fig. 6).

While the theory of this operation is in harmony with Nature's method of the implantation of ducts, and while we are able to prove it mechanically, the physiologic and reparative processes found in surgery are so complex that we can never be certain of results from a given procedure until it has been proven experimentally and clinically. Experiments have therefore been made by the direct and indirect methods of transplanting both the bile-duct and ureters as follows:

PHYSIOLOGIC IMPLANTATION OF THE BILE-DUCT

After having incidentally made the observations noted above, namely, that the bile-duct always dilates as a result of intra-intestinal pressure after it has been implanted into the intestine by the direct method, four operations were performed on dogs by the method just described in which nothing was done but implantation of the common bile-duct. The results in this series were as follows:

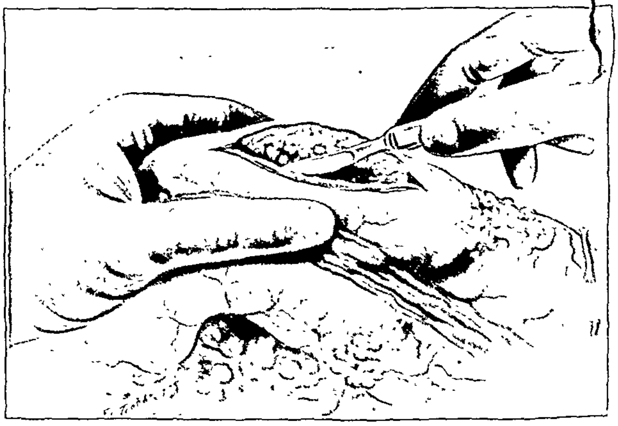

Fig. 2.—Incising peritoneal and muscular coats of intestine and freeing the mucous membrane from the muscular coat.

One dog was killed with chloroform on the fourteenth day and one on the fifteenth day after operation. Both showed perfect valve action. The ducts were possibly a little more distended than normal, owing to swelling from the traumatism of the operation, which had not yet entirely subsided. One dog was killed on the sixtieth day and another on the sixty-first day after operation. In both cases perfect results were found. There was no distention of the ducts above and a ridge in the mucous membrane plainly marked the site of the reimplanted duct in almost the exact manner seen in the duodenum where Nature has implanted the common duct.

After the last specimen of this kind had been removed and the marked difference between the physiologic and the direct method of implantation had been observed, the idea presented itself that the same thing should be applicable in the implantation of the ureter. On December 4 my assistants and I implanted the ureter in a dog by the above method minus the peritoneal sutures which attach the ureters to the outer surface of the intestine. On December 30 we performed a similar operation on another dog. On December 31 we implanted the opposite ureter of Dog 1. On January 1 and 2 we operated on four other dogs. On the evening of the 2d very cold weather set in and as we had no facilities for heating our rooms all of our dogs except the one operated on December 30 died of cold, including the one in which we implanted the second ureter. On this subject we did a necropsy with the following results: There was no enlargement of the kidney. The ureter was slightly dilated with some stenosis of the opening into the intestine. While this narrowing of the ureteral opening had not reached the point of obstruction or hydronephrosis, the indications were that these conditions would have ensued and the probable cause seemed to be that by not placing the peritoneal anchor sutures the ureter had slipped and drawn back somewhat into the submucous canal. The recently implanted kidney was in a perfectly healthy state, as were the kidneys of all the other dogs which died from the effects of cold weather. Late in February, when the weather was more favorable, we took up our experimental work again, which I now report.

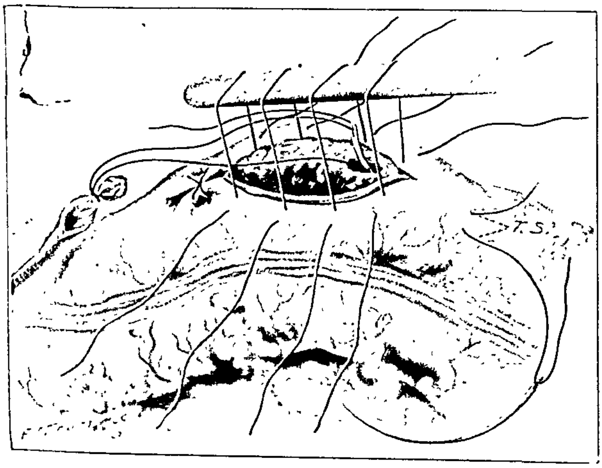

Fig. 3.—Sutures have been passed and duct is being drawn under the intestinal sutures through the stab wound in the mucous membrane.

PHYSIOLOGIC IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 1. Preoperative condition good. Operated on Dec. 30, 1909. Right ureter implanted into large intestine about 2 inches above ileocecal valve. Uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 16, 1910 (169 days after operation). Necropsy showed kidney normal. No dilatation of ureter or pelvis. Valve perfect. Kidney same size as other which had not been implanted.

Dog 2. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted in colon about 8 inches above anus. Refused to eat for about a week after operation, then took food and steadily improved. Diarrhea constantly present. Dog was killed May 16 (eighty-one days after operation). Necropsy showed kidney of the implanted ureter decidedly smaller than the other and having an indurated point at its upper pole. A like point of induration was found in the other kidney. The intestine was clamped above and below the ureteral implantation, an incision was made in the ureter and fluid introduced into the intestine until it was dilated under pressure (Fig. 7). The nozzle was removed and no fluid returned through the ureter (Fig. 8). (Test used to prove efficiency of valve in other cases.) Pressure was made on intestine with the hand, and still not a drop of fluid returned through the ureter, showing that the valve acted perfectly. Both kidneys were split, exposing the pelves. The small kidney appeared as healthy as the other and its cortical substance as thick. There was no distention of the pelvis or of the ureter. A good-sized probe passed easily from the intestine up the ureter. We are at a loss to know whether this kidney was normally smaller than the other or whether this dog during the first week after operation when he refused to eat had a slight infection which he overcame. The perfection of the valve, the healthy kidney substance and the absence of dilatation led us to believe that it was a normally smaller kidney.

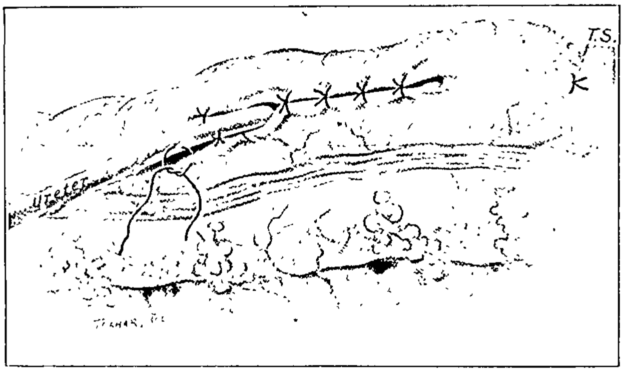

Fig. 4.—Duct has been implanted and anchored at its end inside intestine by tying traction suture T.S. Peritoneal sutures have been tied. Anchor sutures being placed to fasten duct to peritoneum.

Dog 3. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted into the large intestine about 8 inches above anus. Dog died March 3. Necropsy showed general peritonitis probably due to infection from faulty aseptic technic at operation. Specimen showed implantation perfect, no evidence of leakage, no obstruction and no distention of ureter.

Dog 4. Preoperative condition good. Two ounces castor oil, twenty-four hours previous to operation. Operated on Feb. 25, 1910. Left ureter implanted into the rectum about 8 inches above the anus. Perfect recovery, with no clinical signs of trouble. Diarrhea constantly present. Dog was killed with chloroform on May 16 (80 days after operation). Necropsy showed the bladder firmly attached to the site of operation and to ureter for some distance out. These adhesions drew the ureter into a sharp kink, causing hydronephrosis with marked dilatation of the pelvis of the kidney. Urine clear and healthy. On opening the intestine and cutting the bladder adhesions the urine was squeezed out of the kidney and ureter in a distinct stream. The valve was perfect and a good-sized probe easily passed from the intestine up the ureter. Hydronephrosis had no relation to implantation, but seemed to have been caused by adhesion to the bladder.

Dog 5. Old dog, fat, condition poor. Two ounces castor oil twenty-four hours previous to operation. Operated on Feb. 25, 1910. A great deal of extraperitoneal fat was present, making it difficult to find ureter. Planted left ureter into the rectum about 8 inches above anus. Dog died March 10 (13 days after operation). Diarrhea had been constant up to time of death. Necropsy showed no dilatation of the implanted ureter. The valve was perfect. A probe passed easily from the intestine into the ureter. Kidney normal. There was no evidence of peritonitis and no cause could be assigned for the dog's death except his age and condition at the time of operation.

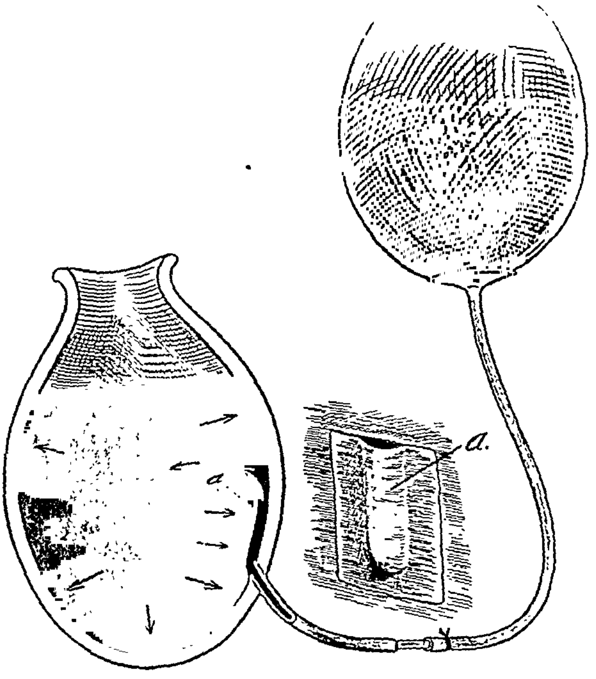

Fig. 5.—Filling with fluid rubber bag, in which pocket valve has been made; *a*, pocket valve. Arrows indicate direction of pressure.

Dog 6. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1, 1910. Left ureter implanted into the rectum about 8 inches above anus. Uninterrupted recovery. Diarrhea constantly present. Right ureter implanted on May 3. The anchor-stitches were forgotten. Uninterrupted recovery from operation. Appetite began to fail May 14 and dog looked sick, so he was killed with chloroform. On opening the abdomen a number of loops of intestine were found adherent around the point of the last implantation. On separating these loops from the rectum a space was found which connected directly with the intestine by a fistula and into which the ureter was emptying. The ureter had evidently been partially pulled out and the intestines had come to the rescue by covering in the leak. This kidney, the right one, was much congested, larger than the other and its ureter somewhat dilated and thickened. When the kidney was split the pelvis was found to be filled with pus. The left kidney, the ureter of which was implanted March 1 (seventy-five days before) was normal. Only a slight omental adhesion was present at the site of implantation and the ureter opened freely into the intestine, and was protected by a membranous valve. This case demonstrates the importance of placing the anchor sutures outside of the intestine.

Dog 7. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1. Left ureter implanted in rectum about 8 inches above anus. Dog died March 5. Necropsy showed that dog had pulled out stitches with his teeth and opened abdominal wound. Kidney and ureter normal. Probe passed easily into the intestine from the ureter. The end of the ureter which hung within the lumen of the intestine was dead but not sloughed. Dog had died of peritonitis following the opening of the abdominal wound by his teeth.

Dog 8. Preoperative condition fair. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 2. Rectum was still filled with fecal matter. Left ureter implanted about 8 inches above anus. Dog made uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 14 (72 days after operation). Necropsy showed slight omental adhesions at site of implantation of left ureter. Right and left kidney presented the same appearance. Both healthy. Implanted ureter the same size as normal one, with no distention. A decided ridge on the mucous membrane of the intestine marked the underlying ureter (Fig. 10). A small child's urethral catheter was easily inserted in the orifice and up the ureter. The valve action was perfect, the ureter running for more than one-half inch under the mucous membrane.

Dog 9. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Left ureter implanted into the rectum about 8 inches above anus. Dog died March 13. General peritonitis. Necropsy showed kidney and ureter normal. Ureter open. No evidence of leakage at point of anastomosis. Probably death was due to a flaw in aseptic technic.

DIRECT IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 10. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Implanted right ureter into rectum about 8 inches above anus. Dog ate a little meat March 15 and had some appetite until March 20, when he refused food and died March 22. Necropsy showed general and extensive peritonitis. Kidney infected. Duct enlarged to some extent. No specimen removed, as tissues were very much infected.

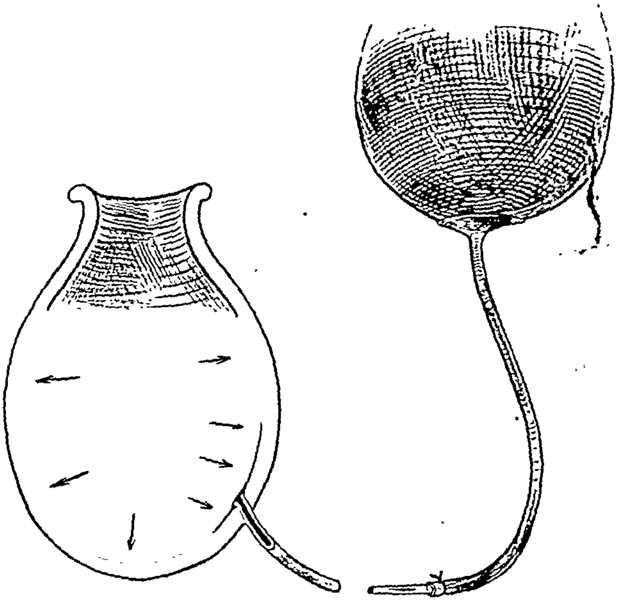

Fig. 6.—Rubber bag filled. Fountain syringe disconnected. Valve closed by pressure of the fluid as indicated by arrows.

Dog 11. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 11. Right ureter implanted in rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Kidney enlarged and contained pus. Ureter dilated to some extent. Condition at site of implantation seemed to indicate leakage.

Dog 12. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Implanted right ureter into rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Ureter was found pulled out, whether in manipulating the intestine at autopsy could not be determined.

DOG 13. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Dog ate a little meat March 18 and 19. March 20, condition not so good. Dog very dull for about a week, then condition improved and he made a slow recovery. Dog killed May 16 with chloroform (sixty-one day after operation). The dog was not in so good condition as when first operated on, and not in so good condition as the dogs which had recovered from the physiologic implantation. It was noticeable that this dog had no diarrhea after fourteen days. Necropsy showed mouth of implanted ureter wide open and ureter slightly distended. Kidney was atrophied to the size of a black walnut and the cortical substance had entirely disappeared, leaving nothing but the pyramids and the capsule. Dog had apparently recovered from the infection, but the secreting portion of the kidney had been destroyed, hence the absence of diarrhea after fourteen days. Peterson noticed this contracted kidney in subjects which had recovered from infection.

DOG 14. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Died March 20. Necropsy showed general peritonitis; duct was pulled out of intestine. Abdominal cavity filled with pus.

DOG 15. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 17. Right ureter implanted into rectum about 8 inches above anus. Dog died March 20. Necropsy showed general peritonitis. Abdominal cavity filled with pus.

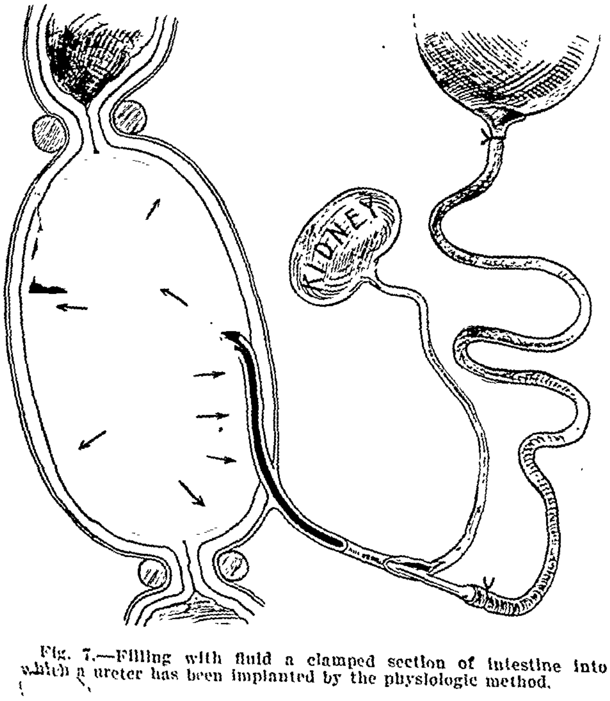

Fig. 7.—Filling with fluid a clamped section of intestine into which a ureter has been implanted by the physiologic method.

A SUMMARY OF EXPERIMENTS

In five dogs in which direct implantation of the bile-duct was done, all specimens showed marked dilatation of the duct without obstruction at the point of passage through the intestinal wall. Of four dogs in which the common bile-duct was implanted by the physiologic method, none showed dilatation of the duct. Of nine dogs in which physiologic implantation of the ureter into the large intestine was done, five recovered and were in good health 169 days, eighty-one days, eighty days, seventy-five days and seventy-two days after operation, when they were killed with chloroform. One dog died on the thirteenth day without discoverable cause, the implantation being found perfect. One died of peritonitis due to the opening of his own wound with his teeth. Two died of general peritonitis which apparently resulted from faulty aseptic technic. Of these nine dogs, a second ureter was implanted in one, at which time the peritoneal anchor sutures were forgotten, with the result that the ureter partially drew out, made an abscess, but still connected with the intestine by a fistula. In this case the ureter was dilated and the pelvis of the kidney filled with pus, indicating the seriousness of omission of the anchor sutures. In one case the ureter in crossing through the peritoneal cavity to the intestine had been caught by an adhesion which kinked the ureter and produced hydronephrosis and distention of the ureter above this point. No distention existed below this point, and when the adhesion was broken the urine from the hydronephrotic kidney was easily forced out through the ureter into the intestine in a stream. The mechanical test shown in Figs. 7 and 8 proved that this valve was perfect, and the fact that the urine in the kidney and ureter was clear proved there had been no ascending infection. Therefore, in not one of the nine cases in which the complete operation as described in this paper was performed did ascending infection take place.

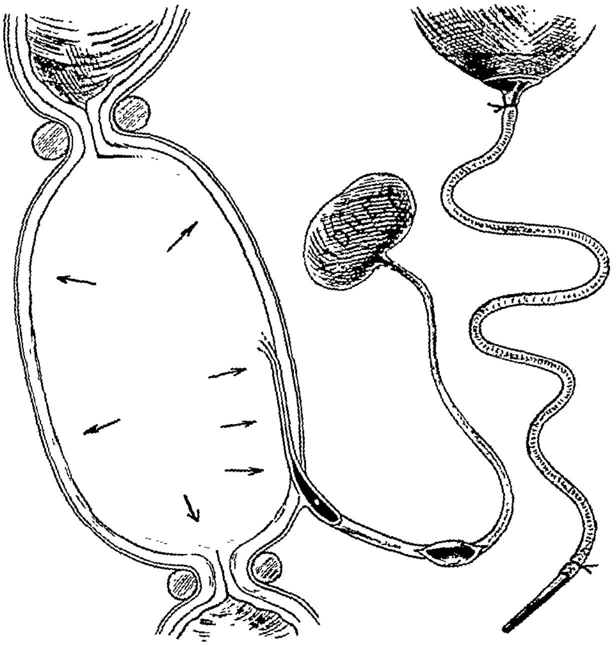

Fig. 8.—Physiologic valve closed by the withdrawal of the nozzle, entirely preventing regurgitation of fluid into the ureter.

Of the six dogs which were operated on under exactly the same conditions but in which direct implantation of the ureter was done, five died within a few days after the operation from either peritonitis or ascending infection. The surviving dog was fairly healthy after the lapse of sixty-one days, when it was found that all of the secreting portion of the kidney had been destroyed, leaving nothing but a shrunken bunch of connective tissue and the pyramids, notwithstanding the fact that the ureter, as it entered the intestine, was patulous. This last series of direct implantations compare favorably with all of the other experiments which have been made, as will be shown by the statistics which will be given later.

We must admit that the mortality rate, even of the physiologic implantation, is much too large as applied to patients; but when our work is compared with the work which has been done by other methods there is much encouragement in this report. After we were fairly launched into the work, we secured a complete bibliography and abstract of the principal articles. The literature of this subject is voluminous. More than two hundred and forty articles have been written on the subject. Many methods have been used. The literature has been repeatedly summarized and reviewed; consequently we will not review it in this paper except to quote the conclusions of a few of our predecessors, and will not describe any of the methods. Few subjects have called out more experimental work and there is no field which has been more baffling and discouraging. This is especially true of the experimental work on dogs; in fact, most reviewers have reached the conclusion that all implantations of the ureter into the large intestine in dogs, if not followed immediately by sepsis or pyelonephrosis, later develop ascending infection or stenosis. Operations on patients have been much more successful, if we are to accept the records of the literature. This is especially true of those cases in which the Maydl operation of transplanting a portion of the bladder with the ureter has been performed, but as this operation is not often applicable where we need it most, namely, in carcinoma of the bladder, we must look still farther for a successful method of implantation.

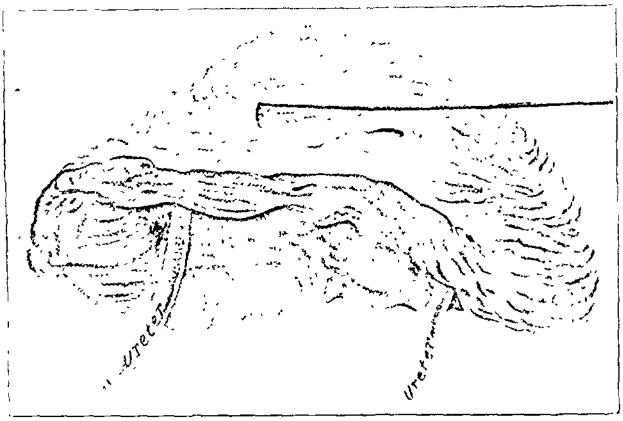

Fig. 9.—Probe in membranous valve at the mouth of the ureter in a fresh specimen of a dog's bladder.

Carl Steinke,[1] in an article written in 1909, has given the most complete summary of all the literature concerning operations on patients up to that time. His conclusions are as follows:

> Of the thirty-five cases recorded above [in his article], two have no statement as to whether the patient lived after the operation. However, fifteen are reported as recovering and eighteen resulted fatally, making a general mortality of about 54.5 per cent. Two cases died of tuberculosis of other organs, thus making the mortality from the operation and its effects 55 per cent. Of the fifteen cases reported as living, two are unilateral implantations and the unilateral cases are really no test, as there still remains one good kidney to carry on the function. This leaves thirteen of the twenty-seven bilateral cases reported as living after four weeks or more, making a mortality of 55.5 per cent. These results show that under certain conditions the ureter may be transplanted successfully. The ultimate results are, however, uncertain, and fatality is apt to occur under the best circumstances.
>
> Experiments on dogs have proved that it is possible for the kidney to recover from the pyelitis, and this may have occurred in some of the above-mentioned cases. However, it has been shown that for routine usage, the present methods for simple ureteral implantation are inadequate and the operation is not likely to become popular.

The Maydl operation is attended with much better success. Peterson collected reports of thirty-six operations performed on patients by the Maydl method, which uses a part of the bladder with the ureter. Five deaths occurred, making a Maydl mortality of 14 per cent. Of those recovering from the immediate effects of the operation, two died within fifteen months of pyelonephritis, bringing the mortality up to 19 per cent. The sphincteric control of the ureter over the urine was mentioned as satisfactory in twenty-four out of twenty-nine cases, and Peterson concludes that of all the operations yet devised the Maydl method is the most satisfactory. Steinke also reviewed the work which had been done on the dog. After summing up the experiments which had been done on dogs, giving them in more or less detail, he says that the literature reports 134 bilateral and 77 unilateral implantations. Of the unilateral type there were 26 recoveries and 51 deaths, thus giving a mortality of 66 per cent. Most of the deaths were from peritonitis or a complication of peritonitis and pyelonephritis. A number of the surviving dogs were killed later and in every instance pyelonephritis or its results were found. Of the bilateral cases there were 117 deaths out of 134, or a mortality of over 87 per cent. Nine of the seventeen successful cases showed pyelonephritis later on (one or both sides), from which the animals would probably have died, and thereby raised the percentage of mortality still higher, if they had not been killed earlier. The faults in most instances were from peritonitis, pyelonephritis or an association of the two. Other causes of death were hydronephrosis, uremia, and hemorrhage. Most of the dogs did not live long enough to develop stenosis of the ureteral orifice. If those animals which recovered had been examined later, stenosis of the ureteral orifice with hydroureter and hydronephrosis or pyelonephritis would probably have been found. Martin's thirty-four cases are not included in the above summary, as he did not state in each case whether the unilateral or bilateral method was employed. There were thirty-one deaths, the cause being about the same as in the other experiments. These, if added, would raise the mortality still higher. In contrasting the results on human beings with those on dogs, it has been proved that the difficulties to be met are much greater in the case of dogs and the mortality is much higher. Steinke's reasons for this are: (1) the dog's ureter is much smaller; (2) the large bowel of the dog

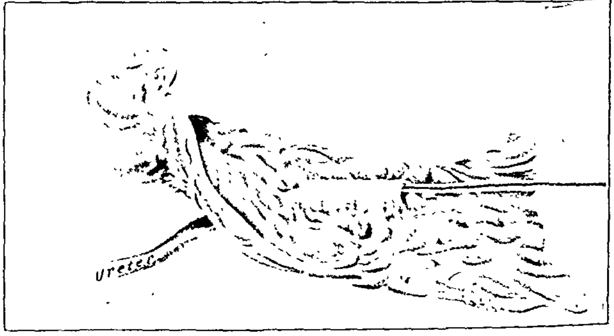

Fig. 10.—Probe inserted into the membranous valve protecting the mouth of a ureter which has been implanted into the large intestine of a dog seventy-two days.

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[1] Steinke, Carl: Univ. Penn Med. Bull., 1909, xxii, 110.

is more rigid and the musculature greater, thus causing the stitches to pull out; (3) asepsis is more difficult to obtain; (4) the bacteria of the dog's intestine may be more virulent, thus causing more severe peritonitis. Steinke concludes this article as follows:

> In view of the generally discouraging results from the records of the operations on human beings and from the records of experimental work, we feel that specific conclusions are difficult to draw and would be of doubtful value. We would emphasize again the particular nature of the problem and the fact that so many difficulties must be met in every attempt. A careful consideration of the summary of surgical work on the anastomosis of the ureter with the intestine leads, we think, to the conclusion that the problem is one of physiologic and surgical mechanics, and as such should remain open to solution.

Dr. Reuben Peterson of Ann Arbor, who has probably done more experimental work along this line than any other man, in an article written in 1900, after reviewing the literature and making statistics similar to those given by Steinke, reaches the conclusion that the best technic is that requiring the least amount of suturing of the ureters themselves. Connell, who has done a great deal along this line, believes that all cases of ureteral implantations into the rectum in dogs ends with death either immediately or later of ascending infection.

CONCLUSION

After going over all the literature which has been written, I find that the patients who have had the ureters transplanted by direct methods have shown 55 per cent. mortality. Dogs operated on by the same method have shown a mortality varying from 66 per cent. to 100 per cent. The former usually represents immediate operative mortality. A large percentage of this mortality, both in patients and in dogs, has been due to ascending infection. The mortality is very much greater in dogs than in human beings and some who have investigated the subject are of the opinion that all animals in which the ureter has been transplanted sooner or later develop ascending infection and other complications. Our experiments with the direct implantation are in exact accord with all those who have preceded us. The experience with physiologic implantation is much better. Ascending infection seems to be nearly eliminated as a danger, and if the physiologic method should prove to be as much better than the direct method in patients as it has in dogs it seems safe to assume that the mortality in the human being should be reduced to a point which would make the operation justifiable and would thereby save the lives of many patients suffering from carcinoma of the bladder who now die for want of proper methods of dealing with the ureter.

667 Gilsan Street.

ABSTRACT OF DISCUSSION

DR. ARTHUR G. SULLIVAN, Madison, Wis.: I have been carrying on similar work for a year or eighteen months. While Dr. Coffey's work has dealt with both the ureter and the bile-duct, mine has had to do chiefly with the bile-duct. Ureteral work is a matter of present endeavor. Dr. Coffey's aim was to make a physiologic implantation of the ureter or bile-duct. My work had the same thing in view, but also took in the reconstruction of these passages after artificial destruction. Dogs were used for my experiments, and the technic employed was about as follows: The common duct was ligated high up and cut across. A cholecystectomy was almost invariably done at the same time. A rubber tube was then inserted into the ductus hepaticus and brought down on the gastrohepatic ligament on its anterior surface. At the level of the ampulla of Vater, a slight incision was made in the duodenum, and the tube was pushed in, so that it projected into the lumen of the intestine for two inches. At the point where the rubber tube penetrated the bowel wall, the intestine was repaired, so that the incision closely encircled the rubber tube. A suitable area of omentum was traumatized lightly with a dry sponge. After the omentum has been approximated, it was sutured so as to form a roof over the tube. About three weeks later, I opened the dog's duodenum, grasped the tube with thumb forceps and drew it out. The ease with which the tube slipped out suggested that the peristaltic action of the intestine could well supplant the second operative procedure. Commonly a small sponge was attached to the end of the tube and the same technic was employed, so that the peristaltic tug withdrew the tube as soon as the restraining ligatures were absorbed. Seven or eight operations like this were done, using tubes and sponges, and the animals all did very well. I killed all the animals—the oldest four and one-half months, and the youngest four weeks after the operation, and the results in all were good. On analyzing the steps of the operation, it is at once apparent that the surgical details are all more or less accepted. In one dog I inserted a rubber tube, with the idea of keeping it there permanently, and consequently the tube did not have a sponge-tipped end. I had to operate because of a strangulated hernia fourteen months later, and I found that the tube had been passed and that the bile was discharging through the intra-abdominal sinus as expected.

DR. J. W. D. MAURY, New York City: We have done a great deal of this work at Columbia, always using animals. Probably not all members of this Section have been able to follow the attacks on animal experimentation that have been made in New York; were it not for the activity of two or three members of the profession in that state, a bill would recently have passed the legislature which would have made it impossible for us to do any more of this work except under the strictest and most annoying restrictions. I would ask physicians of other states to use their utmost vigilance not to allow any antivivisection bill of whatever nature to be presented to the legislatures without immediate protest. Those of seemingly mildest form are most dangerous. The efforts of the well-meaning persons who are opposed to this work will be centered in some state where there is not very great medical activity; therefore, I hope that physicians will not fail to watch the legislatures.

DR. R. C. COFFEY, Portland, Ore.: In all our work on animals, we have invariably given one and one-half grains of morphin before beginning to operate, so that there was no struggling even while giving the anesthetic. Every animal is anesthetized, so that there is no trouble whatever. The police visited our laboratory and found nothing wrong with it. We have a good, healthy climate in Oregon, and we do not know anything about these neurasthenics who usually constitute the class of agitators known as antivivisectionists. I appreciate Dr. Sullivan's work. If there is a field for something new, it is right here. It is most embarrassing for the surgeon to be confronted by a bile-duct which has been destroyed, and to see all the bile pouring out of the abdominal cavity. It means certain death. I shall try Dr. Sullivan's method at the very first opportunity, preferring, of course, to try it out on animals as he has done.

Characteristics of Spirochæta Pallida.—The study of some of the characteristics of *Spirochæta pallida* is very interesting. *In new and untreated cases the spirochetes are* very active, never ceasing for a moment to keep up some kind of movement, and though, as a rule, their position in the field is unchanged, should some foreign material come in contact with them, they will get a purchase on it and run it down its length or cast the substance away, or very gradually, in a snake-like manner, pass on. This may be the means by which they reach the surface of a lesion. The movement of the spirochetes, as time elapses, will get less and less vigorous, never ceasing, however, until their death, when it *terminates* with the spasmodic jerk before referred to.—L. T. Price, in *Old Dominion Journal of Medicine and Surgery.*

CARCINOMA OF THE CECUM

JACOB FRANK, M.D.
Attending Surgeon, Columbus Hospital; Consulting Surgeon, Michael Reese Hospital
CHICAGO

History.—Mr. B., a retired farmer, aged 62, presented himself at my office complaining of pain in the abdomen, and alternate attacks of constipation and diarrhea. The personal and family history was negative. The patient had always been well, with the exception of having been confined to his bed for a few days, some years ago, on account of having been kicked in the abdomen by a horse. Examination of the abdomen revealed a mass about the size of an orange in the cecal region. The patient had observed the occurrence of ribbon stools.

Operation.—April 29, 1910, at the German Hospital, I did a laparotomy and found an extensive involvement of the cecum, appendix and adjacent glands. A macroscopic diagnosis of carcinoma was made and the following operation performed: The ileum was clamped and divided three inches from the ileocecal junction. The cut proximal end was closed and inverted like the stump of an appendix. The field was carefully cleared of a large number of diseased glands. The cecal mass was dissected away, and removed with some six inches of the ascending colon. The cut end of the colon was closed in the same manner as the divided ileum. A side-to-side anastomosis between the ileum and colon was then made. The wound was drained with gauze and gutta-percha.

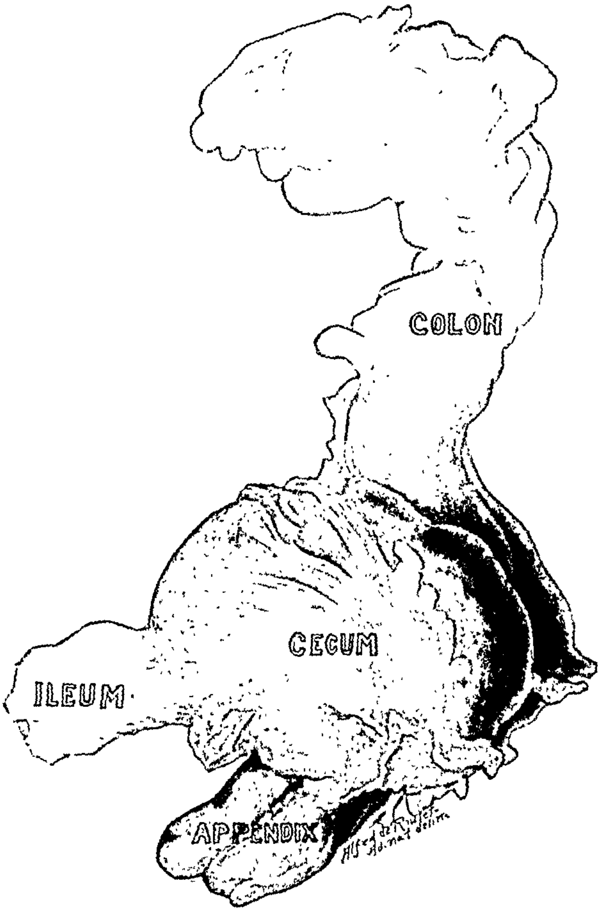


Fig. 1.—External appearance of tumor and surrounding structures in case of adenocarcinoma of the cecum.

Postoperative History.—The temperature never rose above 100 F., nor the pulse above 90. The patient reacted from the operation without shock. Liquid nourishment was given on the second day; the patient had a formed bowel movement on the sixth and was allowed solid food on the twelfth. A fecal fistula developed from the inverted ileum on the tenth day after the operation, but closed at the end of the fourth week. With this exception the recovery and convalescence were uneventful. Six weeks after the operation the patient left the hospital apparently well, and remained well up to the time of writing this report.

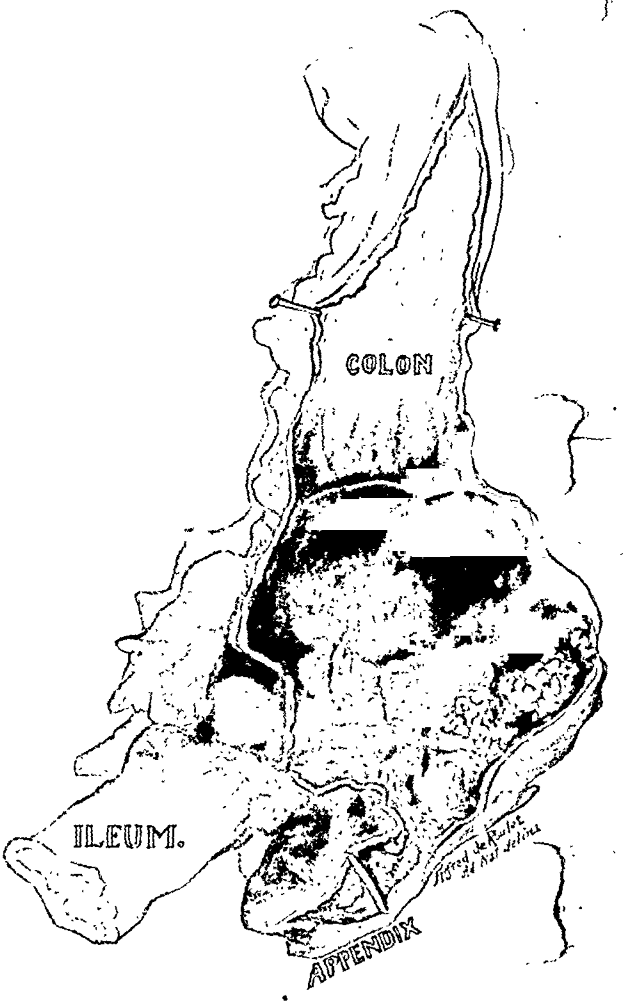


Fig. 2.—Appearance of inside of bowel in case of adenocarcinoma of the cecum.

Microscopic examination showed the growth to be an adenocarcinoma. It is not possible to say whether or not the growth is of appendicular or cecal origin.

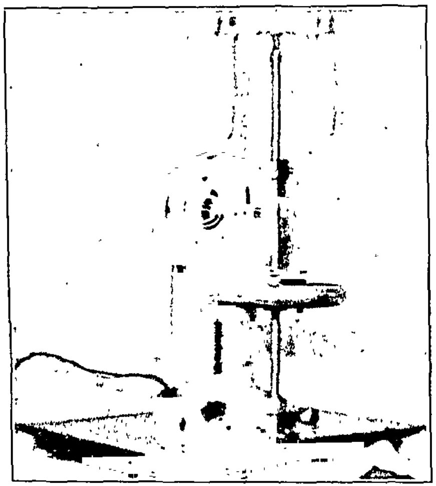
100 State Street.

A HOME-MADE ELECTRIC CENTRIFUGE

A. S. BRUMBAUGH, M.D.
ALTOONA, PA.

An ordinary electric fan can be converted into a satisfactory centrifuge in the following manner: The fan and guard are detached from the motor and the latter is firmly screwed to a solid board about a foot square. A set of bevel gears is obtained from the head of an old sewing-machine—the old-style Singer for example; or if no machine is at hand on which an autopsy is permitted, the gears can be obtained at small cost from the factory. One of these gears is attached by a set-screw to the motor-shaft; the other is attached to a steel rod

⅜-inch in diameter and 16 inches long. This rod is securely held in a perpendicular position in front of the motor by two brass bearings; the lower or end bearing is simply a brass block with a ⅜-inch hole drilled part way through the center and is screwed to the board on which the motor rests. A ⅜-inch ball bearing is dropped in the hole in the bearing, and the lower end of the steel rod is slightly concaved so that it will rotate smoothly. The upper bearing is a brass cylinder one inch in diameter and an inch or more long, with a ⅜-inch hole through its center. This bearing is held in place by a V-shaped brace, made of a strip of iron 1/32-inch thick and about an inch wide, the apex of the V being rounded to fit around the bearing; this brace is fastened to the motor frame by two screws, one at each end of the V (the screws which attach the fan guard may be used for this purpose), and the bearing is fastened in the rounded apex of the brace with two small screws.



A home-made electric centrifuge.

A sewing-machine balance wheel is attached to the upright rod between the two bearings and the arm carrying the sedimentation tubes is attached to the top of the rod. The arm and tubes of a hand centrifuge may be used. To eliminate vibration it is necessary to have the balance wheel centered perfectly on the rod and to have the bearings neatly fitted, and the bevel gears not meshed too closely. The bearings should be oiled frequently.

The entire cost of labor and material in thus converting my fan into a centrifuge was $3.50.

No doubt many physicians have electric fans in their offices which stand idle except for a few weeks in summer and could be profitably used the remainder of the year as centrifuges.

1405 Tenth Street.

Breast-Feeding of Infants.—Those who stop to think will realize that even partial breast-feeding favors an undisturbed digestion in the infant and a safer and more continuous development. Yet many a mother whose milk could readily be made to assist in the early nutrition of her infant is ignorantly advised or allowed to discard it for the greater uncertainties of total bottle-feeding.—T. S. Southworth, in *Am. Jour. Obst. and Dis. Women and Children.*

SYPHILIS IN CHILDREN

MY EXPERIENCE WITH SALVARSAN: IMMEDIATE RESULTS AND LATER TOXIC MANIFESTATIONS

LOUIS FISCHER, M.D.
Attending Physician to the Children's Wards of the Sydenham Hospital, and Attending Physician to the Willard Parker and Riverside Hospitals
NEW YORK

In order to study the true value of salvarsan, I have selected three common types of syphilitic lesions most usually encountered in children.

1. A boy having syphilitic lesions in knee-joint, with infiltration, swelling, and pain on extension or flexion of joint. He was castrated for gumma of left testicle, several years ago.

2. A child with congenital syphilis having lesions (a gumma and condylomata) on vulva, around the anus. This patient was photographed before and one week after treatment, to illustrate the apparent benefit.

3. A girl with congenital syphilis, showing all evidence of malnutrition, having an enormous spleen palpable two fingers below the umbilicus, swollen glands in various parts of the body, a very large liver and icterus.

No patient was subjected to this treatment until a positive Wassermann and a positive Noguchi reaction were obtained. It was not easy, in Case 1, to demonstrate the spirochetes, although diligent search was made for them by Dr. Fred. Sondern.

In Case 2, the *Spirochæta refringens*, not the *pallida*, was found. For all Wassermann and Noguchi examinations, I am indebted to the courtesy of Dr. D. M. Kaplan, Director of the Laboratory of the Neurological Institute.

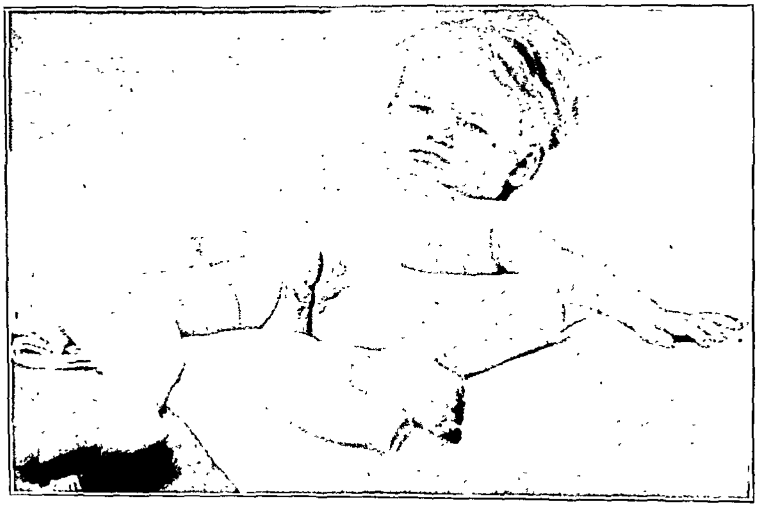


Fig. 1.—Margaret K., 18 months old, with congenital syphilis, before injection of salvarsan.

The blood was examined before and after the injection, and showed a slight increase in the polymorphonuclear leukocytes, also a slightly increasing leukocytosis.

In one case, in addition to a positive Wassermann, a positive cutaneous tuberculin reaction (Von Pirquet), by inoculating human tuberculin, was found, showing a notable though frequent association of tuberculosis with syphilis.

Clinical details were carefully studied by Dr. M. Freund, house physician of hospital, to whom I am indebted for painstaking supervision, in addition to

Dr. Heller, for additional clinical notes. The blood examinations were made by Dr. Gunzburg of the resident house staff.

The immediate result in all cases seen by me was a marked improvement. By improvement is meant the effect on visible gummata and condylomata. There was a general brightening up, and to all appearances a sudden change had taken place. In one case which I report the joint swelling improved rapidly, and the child was discharged greatly benefited after fourteen days treatment at the hospital. One injection was given, and no after-treatment. The patient reported to me weekly; and six weeks after the improvement above mentioned, I note an apparent change for the better.

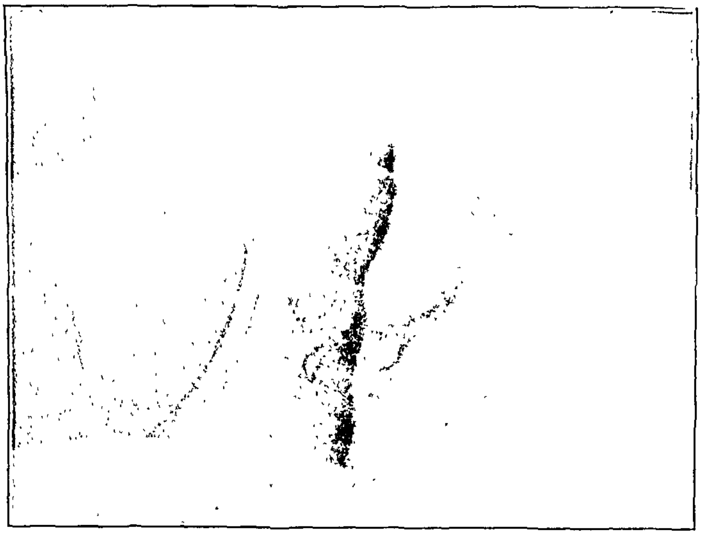


Fig. 2.—Appearance of lesions before injection in same child.

REPORT OF CASES

The following cases have been attended by me in the babies' ward of the Sydenham hospital:

Case 1.—B. L., 6 years old, was a former patient of Dr. Tunick. The mother had an innocent infection. The boy was born with lues, affecting various parts of the body. He had a gumma of testicle for which he was castrated. At present he has a swelling of the left knee-joint, which is thicker than the right joint. The superficial veins are very prominent, and the joint is immovable; evidently gumma-periostitis. The Wassermann reaction is positive, likewise the Noguchi. I am indebted to Dr. D. M. Kaplan for the serologic examinations. An injection of 0.3 Ehrlich-Hata given in a neutral solution, in the left buttock, with aseptic precautions, was not followed by local reaction. Marked benefit followed within forty-eight hours.

Repeated examinations of the urine showed no evidence of any abnormality.

TABLE 1.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 1)

Date.	W B. C.	Polynuc.	Lymph.
10/26	12,200	80	20
10/29	15,400	78	22
11/ 1	16,260	75	25
11/ 5	16,000	78	22

Case 2.—Margaret K., 18 months old, a breast-fed child, was referred to my hospital service through the courtesy of Dr. Henry Whitehouse, whose diagnosis was syphilis. The child was backward in development; could not walk but could stand; said only "mamma" and "papa." Falling of hair, enlarged superficial veins of scalp, marked pallor of skin, and hemic murmur of the heart, also heard in the carotids, were present. The child had snuffles. The epitrochlear glands were easily palpable.

On admission to hospital a diagnosis of gumma on the vulva and condylomata on the vulva and anus was made. Wassermann reaction was positive, also the Noguchi. A smear taken from the surface of gumma was carefully examined by Dr. Fred. Sondern, who reported the presence of *Spirochæta refringens* but not the *Spirochæta pallida*.

The diagnosis being positive, an injection of 0.3 gm. salvarsan was given in the left buttock. Within twenty-four hours the swelling of the vulva and the gumma began to melt away, the swelling of other parts decreased and marked benefit followed.

A severe local infiltration followed with marked febrile reaction and swelling which subsided by local antiphlogistic treatment. It is almost impossible to credit sufficiently the immediate benefit noticed in the lesions, by those who saw the case from day to day.

This condition of improvement was suddenly changed to one of visible loss of power. This was more marked on the left side. At the site of injection, an induration was palpable and from a slight fistulous opening we expressed a yellowish-green mass resembling unabsorbed concentrated Ehrlich-Hata preparation. In addition thereto yellowish coagula resembling necrotic tissue was expressed. There was no Herxheimer[1] reaction present.

Toxic Manifestations.—In this case the visible lesions covering the vulva and labia disappeared and did not return. The muscles of the legs suddenly lost their tone; they were limp and flaccid. Marked trophic changes were noted as early as two weeks after the injection. On the left side the plantar reflex was absent and the patellar reflex was lost. There was progressive atrophy of the extensor and flexor group of muscles of the thigh, calf and leg. The infant seemed to have lost all strength. The sphincters of the bladder and rectum functioned properly. There was a slight drop-foot.

On the right side we had trophic changes involving the thigh and leg. There was also a soft flaccid condition of the muscles and progressive emaciation. The patellar reflex was lost, but the plantar reflex was present. The infant appeared absolutely helpless. The pulse was small and feeble, and the infant showed all the evidence of toxicity. We were certainly dealing with a toxic neuritis due to the injection of this remedy.

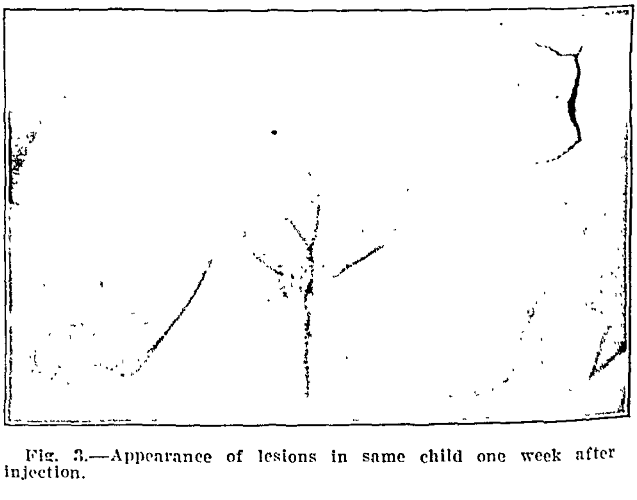


Fig. 3.—Appearance of lesions in same child one week after injection.

Such were the visible evidences of the toxemia. The heart-sounds were feeble and muffled, and a faint murmur was heard at the apex. The child was unable to hold its head up. There was marked anorexia. Owing to the cardiac weakness I ordered caffein, sodium benzoate, and hot salines to stimulate the circulation, in addition to concentrated food, such as yolk of egg with milk, and broth, and malt soup feedings. Massage and general faradization have been used almost one month with but slight improvement. There is a slight increase in weight, due no doubt to improved metabolism. The child appears sick, is listless, and also has excessive diaphoresis. The prognosis is dubious. She is still in the hospital for further observation.

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[1] The Herxheimer reaction consists in an increase of any and all exanthemata after an injection of 606, similar to mercurial treatment. Ehrlich believes that when this reaction occurs the parasites, instead of being killed, are simply being irritated and produce an increased quantity of toxin. This reaction is usually found when an insufficient dose has been given.

TABLE 2.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 2)

Date.	W. C. B.	Polynuc.	Lymph.	Mononuc.
10/18	13,000	73	24	3
10/20	16,600	82	17	1
10/22	12,400	78	22	..
10/24	13,200	79	21	..
10/27	12,000	78	22	..
10/28	12,000	78	20	2
10/29	12,000	76	23	1
10/30	12,400	73	27	..
10/31	12,000	77	23	..
11/ 1	12,800	78	21	1
11/ 2	12,600	76	24	..
11/ 4	13,000	78	21	1
11/ 5	13,200	77	23	..
11/ 7	13,800	76	24	..
11/ 9	13,600	77	22	1

A comparison of the blood reports in Cases 1 and 2 shows a decided leukocytosis soon after the injection. This leukocytosis remained about two weeks in Case 1, until the patient was discharged.

In Case 2, still under observation, the apparent leukocytosis was soon lost, and the leukocyte count of 13,000 on admission to the hospital is now gradually reappearing. When the neuritis was at its worst the leukocyte count was at its lowest, 12,000, and with improved nutrition the leukocytes rose as high as 13,800. The urine showed the presence of albumin on several examinations.

CASE 3.—Helen K., 8 years old, has been under treatment for syphilis for two years. The epitrochlear and inguinal glands are swollen, the liver is very large and the spleen enlarged, extending to below the level of the umbilicus. The patient has various eruptions and nodules on tibia and radius, and cervical glands always enlarged. At present there is some icterus. The patient has been operated on for enlarged tonsils and adenoids by Dr. Freudenthal, and incised for various abscesses by myself. She has frequent ear discharge, and vaginal catarrh; has never been healthy. Wassermann and Noguchi reactions are positive. An injection of 0.3 gm. salvarsan was given in the left buttock with aseptic precaution. The condition of the child is excellent, although the liver and spleen are not noticeably reduced in size. The appetite is good.

It is four weeks since the treatment was begun in this case. There is still a local infiltration and an induration of the buttock which has not become inflamed but is still a reminder of the injection given.

In each of the three cases a single injection was given. This preliminary report is submitted as an unbiased clinical study, and the patients are still under observation. One of them, Margaret K., is still in the hospital, six weeks after the injection.

CONCLUSIONS

From a study of the foregoing experience the following deductions are justified:

First, the toxicity may be due to a hypersensitive body, possibly an idiosyncrasy.

Second, the dose of the drug (0.3 gm.) is too large for children and hereafter I shall advise no more than 0.1 of the Ehrlich-Hata preparation, the dose not to be repeated for at least several weeks, or until we are justified in assuming that there are no systemic symptoms associated with the first dose.

From my present experience I would strongly advise against the injection of ambulant patients, but would require the injection to be given either in the hospital or in a sanitarium, where proper medical supervision and competent nurses can supervise details, and note toxic symptoms as early as possible.

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LIFE AND HEALTH AS NATIONAL ASSETS *

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Short-sighted humanity fails to appreciate Nature's gifts until threatened with their loss. This is true of even the greatest of her gifts, life itself. Although belated in our realization of the threatened overdraft on Nature's storehouse, a compensatory and irresistible enthusiasm has developed within the last two years which augurs well for the retention by our country of that international leadership so manifestly foreordained by Nature's bountiful equipment.

It is significant of our failure to value health, which above all other considerations makes life worth the living, that the first meeting of the governors of states failed to provide for the study of health problems. The omission was noted and in the National Conservation Commission's Report of Jan. 11, 1909, in the general schedule, special consideration was given to life and health. The report itself deals with five different phases of conservation, namely, minerals, lands, forests, waters, and finally, national efficiency, or health. Only four sections, however, were created. Health was not provided with a special section or officers.

In the North American Conservation Congress called by President Roosevelt Dec. 24, 1908, in addition to the conservation of the national resources already mentioned, the protection of game received attention. This was an international commission representing our own country, Canada and Mexico, which reported from Washington, Feb. 23, 1909. Among the commissioners representing the various countries there was seemingly no one whose training and paramount interest lay in the field of public health.

While it is apparent that the initial oversight has been in part repaired, it remains to be seen what progress will result from the Second National Conservation Congress, in relation to this, the people's most important natural asset.

The inclusion in the program of a paper entitled "Life and Health as National Assets" must not be taken as evidence that there is any doubt as to the real and assessable value of life and health. Rather are we called on at this time to realize that they constitute national or public resources furnished by Nature and are not to be regarded as strictly personal or private possessions. The individual life has its economic and commercial value to the community and the nation by virtue of the contribution it may be expected to make to society. This view may perhaps be novel to some. Our ideas concerning conservation of our other natural resources, however, have undergone such rapid evolution in the recent past, that we may easily orient ourselves to the

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* Read before the second National Conservation Congress, St. Paul, Sept. 8, 1910.

viewpoint exhibited by the officers of this congress, that the individual in matters of health as of other resources, must respect the rights of other individuals and of his municipality, state and government. The health aspect of conservation, which is its most important aspect, cannot and will not be neglected, although it has not been the first to which the attention of the nation has been directed.

Nor can we dissociate health conservation from the other aspects of the movement even if we would. The history of man's progress in knowledge of the natural sciences bears out this statement. Even though we ourselves have broken faith with Nature, we are able to-day to make her fulfil her promises in forestry, agriculture and other economic matters by the application of our knowledge of those very sciences which may be said to owe their birth to man's search for perpetual life and youth.

One can easily imagine that the medieval conservation commission comprised two sections, one on health and the other on minerals. In the former, which undoubtedly was basic and dominated all other considerations, the papers presented dealt with "elixir of life" and the touchstone, while in the latter the chief interest was displayed in the transmutation of metals.

At this stage the studies of health and of the control of man's so-called material assets were carried on hand in hand, and if we are logical they always will be.

In any event man's health depends on the success of his effort to adapt his environment to his needs more than in adapting himself to his environment. Health interests are fused with social and economic development, but should undoubtedly dominate rather than be dominated by them.

OBSTACLES TO PROGRESS IN CONSERVATION OF HEALTH

Our lack of interest in matters of health is more apparent than real. It is characteristic of many of us that where our most vital interests are involved we betray the least public concern. In nothing is this better exemplified than in our matters of personal and public health, except, perhaps, it be in matters of religious belief and practice. Nor should we deem it strange that a similar attitude of mind obtains in matters of health and religion.

In ancient times the priest and the physician were one. At the present day aboriginal tribes combine religion and health, and to too great an extent perhaps do our civilized nations fail to discriminate between the two. Particularly is this exhibited in man's cowardly attempt to shift his responsibility for disease and death to Providence.

One of the greatest causes of lethargy in the conservation of personal and public health is the failure on the part of many to differentiate clearly and sharply between disease and death. The former is really a manifestation of life and vital force and is capable of modification, prevention or cure by human agency, since man has shown himself quite able to solve Nature's other secrets for the benefit of his comfort or convenience. We conserve health by the application of the same sciences which enable us to conserve our other better recognized but less material natural resources. Disease yields to man's mastery while death remains man's mystery. Even death may, however, be postponed, and Prof. Irving Fisher has estimated that over 600,000 deaths occur each year in our country which could be postponed by systematic application of scientific knowledge already available. For those who think more easily in terms of dollars and cents he has estimated this appalling annual national loss at over one billion of dollars which can and should be prevented.

We must not be lulled into a sense of well-being by such statistics. There is no royal road to such a goal. Our very success in the eradication of one disease or insanitary condition may lead to undue optimism in regard to other problems which later may be found to be dependent on altogether different causes and to require very different methods of prevention or cure. Failure to realize the complexities of modern social activity and economic development in their relation to health and at the same time to recognize the immense number of variable factors and agencies which are involved in health protective measures cannot but lead to disappointment. The individual whose enthusiasm is too easily aroused by the discovery of some hitherto unknown cause of disease or some new method or theory of cure or prevention is a source of danger to the commonwealth. The faddist, whether in the matter of such things as food, clothing, fresh air, baths, exercise or other therapeutic agent, is to be feared, as well as the individual who thinks that he has discovered the one cause of all diseases.

Our chief difficulty lies in coordinating the various forces and agencies which are essential to success in the eradication of sickness. There is no blanket method of preventing all diseases. Quarantine and fumigation are now found to have a more limited application. Vaccination, which is practically an absolute and the only reliable protection against small-pox, cannot be applied to such diseases as malaria, yellow fever and diphtheria. The use of antitoxin which prevents annually many thousands of deaths from diphtheria does not help us in many other diseases. Our knowledge of mosquito-borne disease which has reorganized life in Cuba, Panama and the Philippines is not of much practical use in our northern states. As there is no single cause, there can be no single method either of cure or prevention.

These considerations should not discourage us. They show us, however, the need of further study and the imperative demand for employing the services of trained physicians, biologists, chemists, engineers, statisticians, sociologists, educators and other experts, and of coordinating all their efforts. We must steer a middle course, avoiding on the one hand the Scylla on which those run who become discouraged in what they believe to be the face of the unknowable, and, on the other hand, the Charybdis of that fateful tendency to minimize the actual complexities of the present-day health problem. Fatalist and faddist are equally dangerous. It is fair to count on the same progress in the adaptation of physical, chemical, biologic, social and other sciences to the diagnosis, cure and prevention of disease as in their application to man's comfort, convenience and economic development.

It is clear that the efforts of all the various workers in the different fields must be coordinated and the difficulties of coordination are at once apparent. The forces and agencies may be roughly divided into international, national, state, county, municipal and institutional. Each one of these is capable of being subdivided still further into two classes, one of which is official or governmental and the other is voluntary. Improvement in public health requires cooperation and coordination of all of these. Successful public health administration consists largely in making individuals do what they do not wish to do, or that of which they do not appreciate the necessity, for the good of themselves and others.

This brings us naturally to the consideration of another national weakness. We encounter some of the same difficulties in public health work that we meet in the exercise of our other public functions. Rampant individualism is of even greater danger in matters of health conservation than in other affairs of public concern, largely on account of the fact that health is too often regarded as a purely personal rather than our most important public asset. The individualist objects to authority in matters of health control. Consequently he resents dictation as to his personal action and fails to recognize the need for special training in health administration as in other branches of public service. We deliberately handicap ourselves by failing to recognize the necessity for employing those who have fitted themselves by special training, and by our unwillingness to maintain a proper relation between compensation and responsibility. Most of those who are engaged in public health service have no way of gaining experience except at the expense of the public and are too frequently removed by political change or semi-starvation just as they have succeeded in equipping themselves to be of the greatest possible value to their fellow citizens.

Public service of many kinds and particularly that which relates to the conservation of health in our country is all too often delegated to voluntary agencies which are thus forced to fulfil the functions which in other countries devolve on official and governmental agencies. This duty is nobly discharged. Their main function should be, however, to afford to the general public an object-lesson of what is needed and of how progress can be made. In this they rarely fail, although they labor under tremendous difficulty imposed by lack of authority. Funds which are furnished from private sources are frequently insufficient to permit of the employment of experts of the highest order. Public apathy, on the one hand, and the development of an abnormal interest on the part of voluntary workers on the other, frequently lead to their continuance long after they have ceased to be useful, with the result either that the public delays in the establishment of an official organization, or, if such an organization be established, there is conflict between the official and voluntary forces. If municipal health departments, hospital services, police departments, water, school, poor and park boards and other official servants and representatives of the people were supported by the people and were quick to see their opportunities, there would be less need of associated charities, visiting nurses, pure water and milk commissions, tuberculosis camps, playgrounds associations and other such voluntary organizations.

Had we found time apart from personal affairs, to consider and provide for public needs our federal and state authorities would have protected the people by the fixation of standards of preliminary and medical education and of medical licensure. This neglect of a plain public duty threw on the American Medical Association, the Association of American Medical Colleges and the Carnegie Foundation for the Advancement of Teaching the task of investigation and report on conditions in medical education which are now being improved through the force of public opinion rather than by law.

Is it not humilating that public lethargy made it necessary for Mr. Rockefeller to provide funds for the investigation and eradication of hookworm disease?

In Germany, the government, through its public health service and universities, provides for medical and other research, so that the nation has become a leader of the world in scientific health protection and scientific economic development.

In America those institutions which are best able to carry on medical research derive their financial support from private sources. We are gratified, however, to see the increasing tendency in our country to provide efficient scientific laboratories for the federal and state governments and in our state universities.

ARE AMERICANS ABLE TO PROVIDE ADEQUATE PROTECTION TO THE NATIONAL LIFE AND HEALTH?

Having seen some of the difficulties which stand in the way of satisfactory conservation of the public health we might perhaps ask ourselves what proof of the possibility of conserving this asset is available. If, at this day and time, the American public is unconvinced of the need and possibility of conserving public health, it is undeserving of the respect of other nations, or even of self-respect. The daily and weekly press, our magazines, and governmental and other publications have overflowed with information. Our attention was particularly called to the possibility of preserving the health of men in the field by Japan's experience in the recent war with Russia. Our life-insurance companies have been quick to see the practical possibilities of prolonging the lives of their insured and of thus increasing the earnings of the stockholders.

The report on "National Vitality, its Wastes and Conservation," which was issued by the American Association for the Advancement of Science, is a masterpiece. It was prepared and presented by Prof. Irving Fisher, of Yale University. The publications of the various committees of the American Medical Association, the speech of Senator Owen in the *Congressional Record* of March 24, 1910, as well as federal, state, municipal and other health reports afford examples of what can be done.

Those who may be skeptical in regard to the ability of our people to compete with the older nations in the prevention of disease should note what has been done by Americans under the greatest of difficulties. In Cuba our nation overturned the existing order of affairs and the scientific discoveries made and applied to sanitation by Americans afforded a lesson to the world. There has been no greater factor in winning the world-wide confidence of other nations than the production of the existing sanitary state of affairs in the Canal Zone by our own citizens. Our work in Cuba, Panama and the Philippines has served to bring about hygienic conditions in supposedly pestilential regions which are vastly superior to those which obtain at home.

What Americans have done for others they have failed to do for themselves, owing largely to the lack of provision of adequate official and governmental agencies and failure to coordinate those which exist. Two Americans in Porto Rico showed the possibility of stamping out hookworm disease. The brains were furnished by the United States and the money by the island. We have the brains at home but refuse to pay the bills.

It is manifest that a full and complete discussion of life and health as national assets is impossible within the limits of a single paper. No attempt need be made to present a complete basis either of comparison or differentiation of health conservation from the other aspects of the national movement. It must be clear to all that in the conservation of lands, minerals, waters and forests, effort is made to prevent the individual from taking that which belongs to the public. In the conservation of public health, our effort must be directed to preventing the individual from giving to the public something which neither he nor it desires. This is particularly true of infectious diseases.

There are many other phases of public health than those which relate to infectious disease, but they cannot be discussed at this time.

I have the honor to be a delegate to this congress from both the American Medical Association and the American Public Health Association, which represent factors in the conservation of human life and health concerning which the public needs more information than it possesses, and with your permission I shall briefly mention a few important matters.

THE MEDICAL PROFESSION IN ITS RELATION TO PUBLIC HEALTH

In the past, individual physicians and local medical associations and societies have brought a scattering fire to bear on the inactivity and ignorance of the general public in matters which pertain to public health. The public fails to believe in the urgency of health needs when presented by individual or groups of physicians because of its inability to appreciate the motive which leads the physician to urge the establishment of machinery and the special education of officials as also the provision of laws and funds to carry on work, which to the casual observer would mean a diminution of the individual physician's work and income.

Physicians who have qualified by postgraduate training in bacteriology, pathology, epidemiology and in public health, hospital, school and institutional administration must be drafted into the direct and official service of the people. This need is increasingly apparent. Others are required who can present evidence of special scientific training in chemistry, engineering, statistical, sociologic, charity and other work.

At present, great as is the actual need, the demand on the part of the public and the remuneration offered are so small and the possibility of employment so uncertain that universities, technical schools and other institutions which offer special courses fail to attract students. The public seems to prefer as yet to jeopardize its most valuable asset by employing untrained public health servants who develop efficiency after instead of before their appointment. This means a payment in life and health instead of dollars.

The average individual seems willing to pay and pay well for a cure when he is sick. Communities pay the cost of epidemics and will even pay for engineering services in relation to public utilities, such as water-supply and sewage disposal, but this is usually done only under the stimulus of some recent or threatened disaster. They, like the individual, want a cure, not a protection. Clinical experts, life-insurance examiners, and consulting and commercial engineers are all sure of a good livelihood because they can help the individual or community out of difficulties. Sanitarians and municipal engineers are usually left to semi-starvation because their function is to prevent the same difficulties, without, however, having either available public sentiment or funds to enable them to do it.

Physicians are naturally skeptical of the scientific training and possession of proper ideals on the part of those who have not been especially trained in medicine and who may have failed to develop the "disease point of view." That they are, however, of a receptive frame of mind can be shown in many ways. The American Medical Association has a number of standing committees, including a Council on Medical Education. This Council, in the endeavor to raise the standard of medical teaching throughout the United States, has prepared a standard schedule of minimal requirements, through the agency of ten committees, each of which consists of ten representative men. One of these ten committees which had to deal with hygiene, medical jurisprudence and medical economics contained in its membership university and college professors of chemistry, physiologic chemistry, political economy, pathology, bacteriology and hygiene. There were also executive officers of state and municipal boards of health and representatives of the federal health service; while among the collaborators were engineers and many university professors. Bear in mind that this was a committee of the so-called "medical trust," the American Medical Association.

Through oversight for which no one is responsible, this second National Conservation Congress and the American Public Health Association are meeting on exactly the same dates, September 5–9, we in St. Paul and the Public Health Association in Milwaukee. This association consists of some physicians who are in practice, but more particularly of medical men who are trained as federal, state, municipal, and institutional administrative officers, as also of laboratory, statistical, engineering and other technical workers. The membership includes representatives from all of the leading universities and medical and technical colleges. It has three sections, namely, laboratory, vital statistics and municipal health officer sections and is organizing a sociological section. You are familiar with the work of many of its officers and members. Colonel Gorgas, who was responsible for the administrative health work in Cuba and who has made possible the building of the Panama Canal without undue loss of life, is a member. The late Dr. Walter Reed, who eliminated yellow fever from civilized communities, was vice-president. It is an international association in which Canada, Mexico and Cuba participate, and much can be learned by attendance at these annual meetings. One of its chief benefits has been the formulation of standard methods of scientific procedure applicable to the suppression of disease in various districts of the different countries.

We are compelled to admit that our neighbors from the north and south have much in the way of advantage which is denied to our own workers. In our sister countries, the tenure of office depends more on the fitness and training of the incumbent. As a rule, the compensation for public service is relatively higher and the official organizations are better provided with an authority which is commensurate with their responsibility than is the case in our own country.

Time will not permit of an extended discussion of these conditions, but the annual opportunity to compare notes, tell each other of our successes as also of our failures and to help in the formulation of new methods, and in an effort toward a higher standard of efficiency, is of untold value. This is, however, a purely voluntary organization maintained for over thirty years at the personal expense of its members in the face of public apathy. This will be realized if I ask "How many of you knew that we have such an association?" and "Did you know that it is now in session?"

There yet remain a few matters of which a general understanding would bring about yet greater cooperation between the physician and the general public. The medical profession has realized for a number of years that its members must become teachers of personal hygiene to their patients and families, as also to schools and the general public. It is a new viewpoint and involves the assumption of new responsibilities. The doctor has guarded himself against publicity except through his professional societies and journals and to his students, though ever eager to furnish details of his own discoveries and to recount his failures as also his successes to those who could understand and sympathize. This kind of publicity has been regarded, however, by the lay public as a sort of soliloquy carried on in an unknown tongue, and intended for the mystification of that same poor public.

Why there should be any failure of the medical profession as a whole to be understood by the general public it is difficult to see. The general public is composed of individuals each of whom has a feeling of trust, affection and possibly of veneration for one or more members of the medical profession. Why then does the public, an aggregation of individuals, allow itself to become suspicious of the medical profession, an aggregation of physicians? Why does the public abhor and obstruct the physician in his study of anatomy, dissection and in autopsy on the human body? Why is there so much suspicion of the motives and work as well as denial of the benefits which accrue to humanity from animal experimentation, when it must be apparent to any right-thinking individual that the extension of a physician's knowledge is only possible by such means? Why must physicians from time to time be themselves forced to urge the necessity of making every hospital a teaching and research institution? A moment's thought would convince any one that if this be not done, and if medical knowledge be allowed to die out with this generation, there will be no skilled men available for the hospitals and patients of the future to which our children and children's children must look for protection. It must also be patent to all that the patients of the present day cannot possibly receive such effective care in a hospital in which medical research and teaching are *not* fostered.

Why should the burden of maintaining a high standard of entrance to the profession and of preventing dishonest, incompetent, ignorant, and untrained persons from assuming the responsibility of physicians be placed entirely on the medical profession when the object to be attained is the protection of private citizens and public health?

Physicians of the United States are now thoroughly organized. The public should rejoice in this, since it is an attempt to neutralize the narrowing effect of isolation and to foster an exchange of information which physicians offer freely to each other and publish broadcast to the world. County and state associations are affiliated with the American Medical Association, which numbers in its membership over seventy thousand physicians. Just as the individual physician's chief concern is the care of his patient, so that of the organized medical profession is public health and welfare. The medical profession is as a rule underpaid, but members spend their hard-earned money and a large portion of their time in efforts to benefit humanity, individually and *en masse*. It is the people's concern to demand a broad education and thorough scientific training of all students and practitioners of medicine, public and private. It is to their interest to see that every possible facility is afforded for teaching and that a rigid standard of teaching, examination, degree conference and licensure is maintained. Nothing is more exasperating for the physician of high ideals, whose length and breadth of sacrifice is known to none, than to hear the sneer directed at his profession for its effort to protect the public. The time has come when the medical profession is in a position to demand that the people exercise discrimination and protect themselves.

NATIONAL HEALTH DEPARTMENT

One of the first steps toward the betterment of our public health conditions is the coordination of the existing federal agencies in Washington, of which we are all so proud. When no logical reasons can be advanced in explanation of further delay, it is very discouraging to realize that this important matter again has been postponed.

At the Sixty-First Congress, various bills were introduced, including that of Senator Owen. In support of these bills appeared those who by special training and long experience are recognized at home and abroad as the highest authorities on public health. The whole nation is waiting to see what action her representatives will take to protect her most precious asset.

I should like to cite some sixteen reasons why the people of the United States should have a Department of Health, which were published by the Committee of One Hundred of the American Association for the Advancement of Science:

1. To stop the spread of typhoid fever through drinking sewage-polluted water of interstate streams.
2. To enforce adequate quarantine regulations so as to keep out of the country plague and other similar pestilence.
3. To supervise interstate common carriers, in so far as without such supervision they prove a menace to the health of the traveling public.
4. To have a central organization of such dignity and importance that departments of health of states and cities will seek its cooperation and will pay heed to its advice.
5. To influence health authorities, state and municipal, to enact reform legislation in relation to health matters.
6. To act as a clearing-house of state and local health regulations and to codify such regulations.
7. To draw up a model scheme of sanitary legislation for the assistance of state and municipal health officers.
8. To gather accurate data on all questions of sanitation throughout the United States.
9. To establish the chief causes of preventable disease and unnecessary ill health.
10. To study conditions and causes of disease recurring in different parts of the United States.
11. To correlate and assist investigations carried on in many separate and unrelated biologic and pathologic federal, state and private laboratories.
12. To consolidate and coordinate the many separate government bureaus now engaged in independent health work.
13. To effect economies in the administration of these bureaus.
14. To publish and distribute throughout the country bulletins in relation to human health.
15. To apply our existing knowledge of hygiene to our living conditions.
16. To reduce the death-rate.

In 1912 there will meet in Washington on the invitation of the President and the Congress of the United States, the International Congress of Hygiene and Demography. This congress meets triennially in the capitals of the world and brings together the leaders in health conservation who are officially delegated by the governments of all civilized countries.

We have many things to show them of which we can be justly proud. Our federal, state, municipal and other official health organizations, however, leave much to be desired, and it behooves us, in the few months still at our disposal, to prepare to show the visiting nations our methods and successes.

We need many other things, but due recognition and coordination of our federal health mechanisms is the first step, which, if we have taken it before the meeting of this international congress, will best enable us to profit by the experience of the world's experts there assembled.

Nature has been prodigal in her gifts to our nation. In no respect has she been kinder than in opportunities for health and efficiency. Her very prodigality has rendered us careless and extravagant.

It is high time that Americans do as well for themselves in health protection at home as they have done for themselves and others in Cuba, the Canal Zone, Porto Rico and the Philippines.

This demands the creation and maintenance of official organizations to amplify, extend and ultimately replace the work of our voluntary organizations whose lack of authority prevents complete success and whose continuance beyond the demonstrational stage or for other purposes than as a stimulus is an admission of American official incompetence which amounts almost to a repudiation of our belief in our own form of government.

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PICRIC ACID AND ITS SURGICAL APPLICATIONS *

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HISTORICAL REVIEW

Hausmann, in 1788, treating indigo with nitric acid, happened on a bitter yellow substance. Welter (1799) found a similar substance produced by the action of nitric acid on silk. Fourcroy and Vauquelin (1806) concluded that the two were identical, and Liebig (1827) and Wöhler (1828) established them as a definite chemical, calling it *Kohlenstickstoffsäure* (in French *acide carbazotique*). Laurent (1841) demonstrated it to be a derivative of phenol (carbolic acid).

The toxic properties of this chemical, later called "picric acid" from the Greek adjective "bitter," were investigated by Rapp and Föhr on dogs (1827). Braconnot (1830) introduced it into therapeutics in the treatment of intermittent fever. Dr. Bell of Manchester reintroduced it for the same purpose twenty years later, and it had for a time wide acceptance as a substitute for quinin, based on the clinical observations of Aspland. It came into general use in France, as well as in Germany, where it was also used and recommended as an anthelmintic. In America it was extolled by certain of the homeopathic school.

Its surgical application was suggested to Chéron (1876) by its power of coagulating albumin. Curie and Vigier (1877) recommended it for the treatment of wounds, but the drug was never properly appreciated until Thiéry, ten years later, worked out by a protracted series of observations, the advantages of the saturated aqueous solution. He had many followers, who have spread its fame to other countries, and into other branches of medicine. His critics insisted on the danger of poisoning from absorption, but to this he had the answer that if properly used there was no danger of toxic symptoms developing, and that it had never been known to cause death even when taken internally, although five attempts at suicide by its use have been recorded.

CHEMICAL PROPERTIES

Picric acid ($C_6H_2(NO_2)_3O\ H$) is a trinitrophenol, and may be made by dissolving phenol crystals in strong sulphuric acid and adding nitric acid. Its crystals are small scales or elongated plates or needles, pale yellow, odorless, intensely bitter. They melt and sublime if warmed gradually, but if heated rapidly or rubbed briskly they detonate. The potassium and sodium salts are explosive.

It is soluble in alcohol (10 per cent.) and ether (20 per cent.), but only slightly in water (1.2 per cent. at room temperature). It may be purified by precipitation from a boiling solution. Its watery solution is deep yellow, having a marked affinity for animal tissues and fabrics, which gives origin to its use as a dye. Stained surgical dressings may be burned without danger of explosion. It is cheap.

Absorbed in sufficient quantity, it causes a yellow discoloration of the skin, simulating icterus, as well as of the internal organs. Large doses (dogs) cause destruction of the red corpuscles, and hemorrhage and inflammation of the kidneys and gastric and intestinal mucous membrane. It is excreted chiefly in the urine as picramic acid. About 15 grains internally will induce a yellow coloration of skin, conjunctivæ and urine in man. If it is continued the urine becomes black and there is headache, vomiting and epigastric distress. Aspland gave 1 to 4 grains three times daily for as long as nine weeks, without distressing symptoms. The discoloration disappears in two weeks after the dose is discontinued.

ANTISEPTIC PROPERTIES

Concerning its antiseptic properties I have been able to find in the literature no definite information. It has been generally recognized as a mild antiseptic; it has been recommended internally for the purpose of arresting decomposition of urine in cystitis, and it has been advocated as a disinfectant of fecal and putrid albuminous matter; being without odor, it does not mask the odors of decomposition. In order to determine at first hand its bactericidal power, the following experiments were undertaken.[1]

EXPERIMENTS

The so-called rod-method was selected as being the best means of estimating the antiseptic strength of solutions used in surgical dressing. In this method the solution is tested out on bacteria which have been dried in air, in contradistinction to the drop-method, which tests the solution against bacteria in thin fluid suspension. The rod-method gives, therefore, an estimate of the power of penetration possessed by the solution, and as between the two methods it gives the slower reading.

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* A bibliography of the subject, omitted here for lack of space, is given in the author's reprints.

[1] The experiments were carried out at the bacteriologic laboratory of the Boston Board of Health, to the director of which I hereby express my extreme obligations. The experiments were performed with the aid and under the supervision of Dr. C. L. Overlander, instructor in theory and practice, Harvard Medical School, assistant in clinical pathology, Boston City Hospital, to whom I wish here to give grateful recognition.

A sterile saturated solution of picric acid at room temperature was employed. To serve as a control, as well as to give a basis of comparison with a commonly used antiseptic of known value, a solution of phenol in sterile water of analogous strength, namely, 1 per cent., was also employed.

As objects of the experimentation, fresh virulent cultures of *Staphylococcus aureus* and of *Bacillus pyocyaneus* were used, the staphylococcus representing the most resistant of the pus-producing organisms which the surgeon has to meet, and the pyocyaneus representing the milder secondary and saprophytic wound-infecting agents. The culture of *Staphylococcus aureus* was taken from a freshly opened breast abscess, and in order to increase its virulence was passed successively through three guinea-pigs, the last of which it killed in forty-eight hours. The pyocyaneus was taken in pure culture from an abscess in a horse, and was passed through two guinea-pigs, the second of which it killed in thirty-six hours.

The mode of procedure was as follows: Long glass rods were sterilized in test-tubes. To a twenty-four-hour growth of each of the cultures on agar a half dram of sterile water was added, and into this the growth was rubbed by a sterile platinum loop. Into these bacterial suspensions a sufficient number of the rods were dipped and placed in a frame to dry in the air at room temperature. After drying one hour, the rods were inserted into the tubes already prepared containing each about 10 c.c. of one of the sterile antiseptic solutions. After being immersed for the measured length of time, each rod was removed, rinsed off in a tube of sterile broth to wash away the excess of antiseptic, and planted on an agar slant. The broth and agar were both incubated ten days, when the final reading was taken. In case of doubt as to the identity of the growth, transfers were made to study cultural characteristics, as in this method there is considerable opportunity for contaminating organisms to enter. To guard further against error, the experiments were performed twice under identical conditions.

The accompanying table shows graphically the result of the experimentation. From it we conclude that a saturated aqueous solution of picric acid (1.2 per cent.) kills bacteria from a fresh virulent culture of *B. pyocyaneus* which have been exposed to the air for one hour, in a half minute, and bacteria from a fresh virulent culture of *Staphylococcus pyogenes aureus* in about two minutes, whereas a 1 per cent. solution of phenol under the same conditions takes about twenty minutes to kill *B. pyocyaneus*, and ninety or one hundred minutes to kill *Staphylococcus aureus*. That is to say, the picric solution may be considered about fifty times more active as an antiseptic than the 1 per cent. phenol.

CLINICAL

My first surgical application of picric acid was made five years ago as house officer in the Boston City Hospital, at the suggestion of Dr. Frederic J. Cotton. Since that time I have employed it on about 300 patients, ambulatory and bed cases, and in private practice. Never, either in infants or in adults, have I seen sufficient absorption to show in coloration of the skin or urine. I have used it with satisfaction in first, second and third-degree burns, and in fresh lacerated and granulating wounds and ulcers. It is my purpose here to describe the technic of its use, and the results of my observation of its effect, particularly in burns.

I have used practically throughout a saturated aqueous solution of the C. P. crystallized picric acid. The stronger solutions sometimes recommended in alcohol and water are momentarily extremely painful on large raw surfaces, and are of course more liable to be followed by symptoms of absorption. They have a place only in limited areas of first-degree burns and in dermatologic affections in which the skin is not broken. The surgical employment of the acid in the form of an ointment is illogical, in so much as its so-called keratoplastic properties are interfered with by the fatty base, and the powdered crystals also should not be used because of the grave danger of absorption, and because the characteristic action is produced only by the solution.

A convenient method of preparing a sterile saturated solution is as follows:

> Boil water in a flask sufficiently long to insure the sterility of the water and of the interior of the flask. While still boiling add the estimated quantity of pure picric acid crystals (12 gm. to the liter, or 1½ drams to the pint), stopper with absorbent cotton and allow to cool. Any excess of the acid will settle as a precipitate on the bottom of the flask. The contents can be kept sterile indefinitely.

MINUTES EXPOSURE	FIRST EXPERIMENT 10 DAYS INCUBATION								SECOND EXPERIMENT 10 DAYS INCUBATION							
	PICRIC 1.2%				CARBOLIC 1%				PICRIC 1.2%				CARBOLIC 1%			
	PYO.		STAPH		PYO.		STAPH.		PYO		STAPH.		PYO		STAPH	
	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR
½			+	+	+	+	+	+			+	+	+	+	+	+
1			+	+	+	+	+	+			+	+	+	+	+	+
1½					+	+	+	+					+	+	+	+
2					+	+	+	+			+	+	+	+	+	+
2½					+	+	+	+					+	+	+	+
5					+	+	+	+					+	+	+	+
7½					+	+	+	+					+	+	+	+
10					+	+	+	+					+	+	+	+
12½					+	+	+	+					+	+	+	+
15					+	+	+	+					+	+	+	+
17½					+	+	+	+					+		+	+
20					+	+	+	+							+	+
22½					+		+	+					+		+	+
25					+		+	+							+	+
27½					+		+	+							+	+
30							+	+							+	+
35							+	+							+	+
40							+	+							+	+
45							+	+							+	+
50							+	+							+	+
55							+	+							+	+
60							+	+							+	+
70							+	+							+	+
80								+								
90															+	+
100								+							+	+

Table showing comparative antiseptic strength of a saturated aqueous solution of picric acid and of a solution of phenol of analogous dilution. The picric acid solution kills *B. pyocyaneus* and *Staphylococcus aureus* in approximately one-fiftieth the time required by the phenol.

The solution should be applied on gauze. In case of a superficial burn of hand or foot, the part may be completely immersed in the solution for some minutes and the gauze dressing then applied, covered with sheet wadding and bandaged. Waxed paper or other material to prevent evaporation and render the dressing occlusive is of no advantage except to prevent the solution from soaking through and discoloring the bandage. To avoid staining the fingers, the wet gauze may be handled with forceps, or the hands may be protected by rubber gloves or petrolatum. Sometimes it is cleaner to apply the gauze about the part and then to moisten it by pouring the solution on the gauze directly from the bottle. Ordinarily, scrubbing the hands in soap and water immediately after contact, with or without a preceding soak in alcohol or ammonia water, readily removes all but the faintest traces of yellow discoloration.

In fresh burns of the first and second degree, or superficial lacerated wounds, no preparation is necessary if the parts are tolerably clean. If the skin is dirty it should be gently washed clean with a gauze sponge dipped in soap and water, and then rinsed off with sterile water or a weak antiseptic solution. Any blebs which have formed may be opened aseptically at their most dependent point, and the contents expressed. One dressing usually suffices in these cases, unless the lesion is extensive. If a burn has received previous treatment with ointments, or a carron oil or other emergency application, this should be carefully wiped away, so as not to interfere with the action of the picric acid.

In burns of mixed degree the same principles are to be followed, except that wherever the subcutaneous tissue is exposed, more particular care should be exercised in rendering the lesion aseptic. If a small area of third-degree burn is well cleaned up at the start and is dressed aseptically, it will granulate without pus formation and dermatize rapidly. Third-degree burns covering an extensive area should not be treated by picric acid. Ordinarily one or two dressings will suffice to heal the first and second degree elements of a mixed burn, and after that the granulating areas can receive attention.

The treatment of granulating areas, whether fresh or chronic, by picric acid is successful only in proportion as the exudation of pus can be controlled. Areas of third-degree burn may be made to heal aseptically under picric acid with an even granulating surface without exuberance or purulent discharge, which dermatizes rapidly with a smooth and supple cicatrix and very slight scar contraction, and forms an ideal base for a Reverdin graft.

A chronic ulcer may, under proper circumstances, be cleaned up and freshened so as to respond similarly to picric acid treatment. If the lack of healing depends on interference with circulation, as in varicose ulcers, the patient should be kept in bed with the part elevated. The limb and ulcer should be scrubbed with soap and water and washed off with ether and 60 per cent. alcohol; exuberant granulations should be trimmed down, and the marginal epithelium, if callous, should be lightly curetted and an aseptic picric acid dressing applied. The dressing should be changed daily, with a repetition of the cleansing, until the purulent discharge has ceased. After this, the ulcer will dermatize rapidly under dressings every three to six days.

For superficial lacerated and incised wounds and abrasions the solution acts well. Such lesions, if not too extensive, after being cleaned up with some antiseptic, may be expected to heal under one or two dressings in four to six days. Septic blebs, such as frequently occur on the hands, in paronychiæ, from pinpricks, following burns and scalds which have not been attended to, and on the feet from chafing and bruising, respond readily to picric acid. If the tops are trimmed off, the pus wiped away with a cresol-soap solution and dried, one application of picric acid will usually suffice to form a new and substantial horny layer over the denuded epithelium—unless the basal layer has been destroyed and the subcutaneous tissue exposed.

The local action of picric acid solution has been the subject of considerable speculation. Its essential action may be referred to its power of coagulating albumin. Over any clean denuded surface it forms a protective, aseptic scab, by coagulation of the secreted serum, which seals up ruptured lymph-spaces, protects exposed nerve-endings, and splints the wound in such fashion that epithelial proliferation may proceed rapidly beneath, simulating Nature's method. This artificial scab protects against infection from external sources and promotes rapid and painless epidermatization.

In burns of the first and second degree, and other superficial lesions, the original dressing may be removed after three or four days and the wound will be found healed into a flat, pliant scar. If the gauze adheres to the scab it should be moistened with picric acid to avoid pulling away the scab, which may be softened with boric ointment and removed, or allowed to remain until it comes off—unless there is suspicion that pus is imprisoned beneath. If there still remain unhealed portions the dressing should be renewed.

It is essential that the wound be clean and aseptic at the time of the first application. Pus may become confined beneath a scab, or, in a lesion of considerable size, the gauze may become adherent at the edges by inspissation of the secretion and the pus collect under tension. In either case the lesion is likely to become converted into an ulcer. In third-degree burns, when doubt exists as to the sepsis or asepsis of the lesion, it is wise to inspect the original dressing within forty-eight hours.

In comparison with other commonly used dressings for lesions of this nature, picric acid solution stands out in marked relief as the only agent actually encouraging epidermatization. Oils and greases usually employed in burns are ordinarily far from aseptic, and they tend to macerate the tissues with which they come in contact and prepare it as a suitable medium for the multiplication of the bacteria which they themselves supply. Other solutions employed for their antiseptic properties, such as phenol, corrosive sublimate and cresol-soap solution, oppose epithelial growth in proportion to their antiseptic power, by their chemical action. Picric acid, on the other hand, is distinctly keratoplastic—it is bland, unirritating, definitely antiseptic, if properly used is non-toxic, and at the same time it promotes so rapidly the formation of epidermis from the basal layers that it has been said "with it one can create epidermis at will."

Pain, which has been noted with the stronger alcoholic solutions, is rarely present when the watery solution is used. Sometimes over an area of a third-degree burn of considerable size, smarting is felt on the first application, but this is momentary and not severe, and is followed by a complete and permanent analgesia.

CONCLUSIONS

The saturated aqueous solution of picric acid is incontestably superior to any other antiseptic surgical dressing at our disposal for the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. It is cheap and simple in application and induces rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level, non-secreting granulating surface, over which dermatization will proceed rapidly, or which will serve as an ideal base for the reception of Reverdin or Thiersch grafts. The mild toxic symptoms which have been reported as occasionally occurring will never be seen if reasonable care is exercised.

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COLITIS *

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That there should be such a conflict of professional opinion regarding the nature and concept of colitis is perhaps not surprising when we consider its protean characteristics.

The more experience one has in dealing with these cases the more likely is he to be convinced of the futility of attributing to them either a common origin or a constant pathology. The term "colitis," as here used, is intended, therefore, to include both conditions associated with catarrhal inflammation and those in which the disturbance in colonic function is dependent on a secretory neurosis. I have excluded, however, cases of gastro-enteritis, enterocolitis, and all conditions in which the colonic involvement seemed of secondary importance, as also the acute forms of colitis.

The statistics given are based on a series of 625 cases observed during my four years' residence at French Lick Springs. All have one feature in common, *viz.*, an excess of mucus and, with few exceptions, pain and tenderness along the course of the colon. I have not attempted a further classification under the headings of colica mucosa and intestinal catarrh, for the reason that while I believe that a certain proportion of such cases, as clinically observed, may be readily recognized as belonging to one or the other of these forms, there still remains a considerable number which, either for the lack of sufficient data or because of the coexistence of certain features supposedly characteristic of each of these types, cannot be thus differentiated with certainty.

ETIOLOGY

From the standpoint of etiology, neurotic influences, both hereditary and acquired, undoubtedly play an important rôle, for, with few exceptions, the evidences of a neurosis are present, yet I am by no means convinced that such influences are necessarily primary. Not a few of these cases have apparently had their origin in an intestinal catarrh occurring in early childhood, although the symptoms present have exactly corresponded to the classic descriptions of colica-mucosa. On the other hand, I believe that there are many which in their inception are simple secretory neuroses, are at a later period complicated by a catarrhal inflammation, the result either of fecal retention or of measures employed for its relief.

Of the patients whose cases are included in this report, forty-four were under 20 years of age, the youngest 3. Fifty-six were over 50, the oldest 78. The greatest number were between the ages of 30 and 40 years. The duration of the disease has varied from three months to twenty years, usually from two to six years.

SYMPTOMS

In 87 per cent. the symptoms first observed were those of a disturbance of digestive function; in some it was attributed to the stomach, more often to the intestinal tract, particularly the colon. Fifty-four per cent. gave a history of constipation; in a majority of the cases, of the spastic variety. In 15 per cent. diarrhea was present more or less constantly, the number of stools varying, as a rule, from two to five daily. Frequently constipation alternated with diarrhea; in a few the stools were apparently normal.

Mucus, as has been stated, was present in all cases in appreciable amounts. In 36 per cent. it existed in the form of casts or tenacious inspissated shreds, showing evidences of pressure and retention. In the remainder, it was found in the form of small flakes more or less mixed with fecal deposit or in gelatinous masses sometimes passed alone. The appearance of the mucus was, however, most variable, not only in different cases, but in the same case at different times, so that very often it was without special diagnostic significance.

Colic was a prominent feature. In only 15 per cent. was this symptom entirely absent. In 35 per cent. it was described as slight or moderate in degree and in the remainder as at times severe. Neurotic tendencies, sometimes of the most manifold nature, were exceedingly common, as were also autotoxic symptoms.

Physical examination showed gastroptosis in 17 per cent. of the cases and enteroptosis in 24 per cent. The right kidney was palpable in eighty-four cases, the left alone in nine, and both kidneys in fourteen. Tenderness over the course of some portion of the colon was present in about 90 per cent. of the cases. Most commonly it was over the sigmoid flexure. Next in point of frequency was the cecum and then the transverse colon. Very often it included both the ascending and descending colon and in about 15 per cent. it was quite general.

Urinalysis showed indican in excess in 34 per cent. and urates in 27 per cent. Oxaluria was present in 19 per cent. and phosphaturia in 23. Other abnormalities of renal function were probably not more common than might be expected in a like number of cases of other diseases.

Among the other symptoms observed, that which was most frequently complained of was a disagreeable sensation in the abdomen, hardly amounting to actual pain and usually referred to the region of the descending colon or sigmoid. Gastric distention, eructations, burning, regurgitation, coated tongue, and a bad taste were common symptoms; nausea less so. Cardiac palpitation, arrhythmia, intermittence of the pulse and precordial distress were often a source of much anxiety to the patient, as were also vertigo, and unusual fatigue. Insomnia, migraine, and general neuralgic pains still further added to their discomfort. Mental depression of some degree was a very constant feature, in some instances amounting almost to hypochondriasis.

Many of these phenomena were probably merely the evidences of the underlying neurosis, but most of them, I believe, were the result of auto-intoxication, as they usually disappeared or were much mitigated as soon as the disturbance of digestion was relieved.

DIAGNOSIS

The diagnosis in typical cases of colitis is not difficult, although mistakes are common, and its significance is often overlooked, even when its existence is recognized. I am sure that this is true in a considerable number of the cases I have seen, a majority of which have been referred by other physicians. Many of these patients have come with a diagnosis of appendicitis or gall-stones, some of them postoperative, yet the symptoms present were apparently the same as those which had existed from the beginning of the illness.

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* Read before the American Gastro-Enterological Association, St. Louis, June, 1910.

I am confident that operations of this kind would be undertaken much less frequently if every colitis patient were properly treated from the incipiency of the case, and that the results of these operations, when indicated, would be far better if more attention was given to the after-treatment of the colon.

Fecal examinations are an important part of the investigation of these cases and in those reported such examinations have been the rule. Most frequently, they have been macroscopic only, but in a considerable number, microscopic and chemical as well.

It is easy to determine, so far as the individual case is concerned, whether the difficulty in digestion has to do chiefly with the fats, proteids or carbohydrates, when the patient is on his ordinary diet, and the information thus obtained is sometimes more valuable than when a systematized diet is employed.

While a very cursory inspection will suffice to determine the existence of mucus, its character and amount, the color and consistency of the stools, presence of intestinal sand, blood, worms, and the grosser evidences of undigested food-products, to form an accurate opinion of the digestive function, a microscopic examination should also be made and in many cases it is desirable to employ a test diet such as has been recommended by Schmidt.

While attaching much importance to the results of examinations of this kind, I would also emphasize the point that the results, to be of practical value, must, as in all laboratory investigations, be considered in connection with the clinical history and physical signs.

COMPLICATIONS

Among the various conditions complicating colitis, gastric disorders were decidedly the most common. In only 18 per cent. of the cases was there an absence of such symptoms, although very often they were comparatively slight. Examinations of the stomach contents were made in most of the cases in which such features were at all prominent, as I believe they are not only of value from the standpoint of diagnosis, but more especially for the information they afford as regards the diet. Of these cases, gastritis was present in 15 per cent. and hyperchlorhydria in 28 per cent. Sixteen cases showed achylia gastrica. In many of the remaining cases, no particular abnormality was apparent. Appendicitis was, or had been, present in seventy-eight cases; in thirty-four it was postoperative. Symptoms of cholelithiasis existed in forty-two cases, in nine of which operation had been performed. Gouty manifestations were of very frequent occurrence, usually of an atypical form. Cutaneous eruptions, such as eczema, urticaria, acne and psoriasis were comparatively common also.

TREATMENT

The treatment will, of necessity, vary with the indications present. Patients differ so radically in the prominence of different symptoms, in the state of nutrition, in their response to psychic impressions and in the manifestation of idiosyncrasies towards certain kinds of food, to say nothing of the innumerable influences of environment and habits of life, that one must be guided largely by general principles.

Whether we take the view that the indications are to be sought solely from the side of the neurosis or that we should take some cognizance of the digestive symptoms, more than to stimulate intestinal peristalsis, one thing is certain and that is that we shall not succeed by medication alone. I do not hesitate even to say that on the whole medicines are likely to do more harm than good.

Here, as in other diseases, the important thing is a recognition of the influences that have caused it. Our patient has not been living correctly or the condition would not exist, and we should be just as painstaking in our investigation of questions pertaining to his environment, his diet, and his habits of life generally, as we are in obtaining data on which to base a diagnosis.

If the case is brought to us at a time when the only evidences of the trouble are the presence of mucus and pain, plus certain neurotic disturbances common to other functional neuroses, the treatment would not differ materially from that which would be applicable to neurasthenia without special intestinal involvement.

So far as my own experience goes, however, such uncomplicated cases as these are the exception and not the rule, for even though there may have been a simple neurosis in the beginning, evidences of other disturbances of digestive function and not infrequently changes in the organs themselves are likely to follow in more or less rapid succession.

Ordinary hygienic measures, such as fresh air, exercise, rest, baths, etc., are always applicable and if, as is generally the case, the nutrition is below par, we must see that the diet is sufficient in quantity to meet these requirements; but to accomplish this it is necessary that it be of a quality that will not overtax the digestive capacity.

While I am confident that much harm is often done by concentrating the patient's attention on dietetic details, and that the prolonged and frequent use of enemas and other local treatments may act unfavorably in the same way, I am equally positive that when judiciously employed, such measures are distinctly beneficial.

There is no scheme of diet that is applicable to all cases. If we can exclude any catarrhal condition, a coarse regimen, rich in cellulose, such as is recommended by Von Noorden, will often succeed admirably, but the change, I believe, should be made gradually and not abruptly. If pain is a prominent feature, if there is much tenderness over any part of the colon, great distention or marked evidences of undigested starch granules in the stools, it will only aggravate these symptoms. Hyperchlorhydria and gastroptosis are often contraindications and one or the other of these conditions is not infrequently to be found in cases which afford the most typical examples of the secretory form of this disease.

The best diet in such cases is one that is small in bulk, that is easily digested and that leaves a small residue. It may not relieve the constipation, but it will lessen the patient's discomfort. As improvement is observed in the secretory and sensory disturbances, we can, by a diminution of proteids and the substitution of fats and carbohydrates, promote a better motor function. Fruits, honey, butter, olive oil, the coarser breadstuffs and vegetables all act to increase the volume of alimentary residue and to stimulate peristalsis. If diarrhea is present, or if experience has shown that this condition is readily precipitated, only the blandest articles of food should be permitted. In dealing with constipation, diarrhea and other attendant local phenomena, I believe that the milder mineral waters of the alkaline-saline group are among our most useful remedies. This opinion I have often heard expressed also by physicians practicing in Carlsbad, Kissingen, Homburg and other European resorts where the waters are of this type.

I have used the French Lick waters in all of the cases here reported and, after making due allowance for such favorable extraneous influences as resorts of this character afford, I am confident that much benefit has been obtained from their use.

I have not, however, even in the cases in which constipation was most obstinate, prescribed the water in large quantities nor have I relied wholly on the drinking of the water but have employed it locally as well. The greatest benefit to be derived from its use is, I believe, in its influence on secretion, and for this purpose large quantities are not advisable. Warm enemas of olive oil are often of the greatest service in the cure of the attendant constipation. Tonic baths, conjoined with local and general massage, have been largely used both for their effect on the circulation and the relief of intestinal atony. Warm fomentations over the abdomen are very grateful if there is much pain or tenderness.

The indications for abdominal massage are much the same as for the coarser forms of diet. It should never be employed when it produces pain. In many cases I have found that vibratory massage acted even better than when manually performed.

Exercises, particularly such as bring into use the abdominal muscles, are most beneficial in promoting peristalsis, and in fact outdoor exercises generally, provided they are not carried to the point of undue fatigue, serve an excellent purpose. The greater the diversion and interest they afford, the better will be the results obtained.

There are few conditions in which the psychical element enters more largely into causation than it does in colitis, and we are justified, I think, in availing ourselves of the same influence in treatment; in some cases its importance is to be placed before that of any other measure. Optimism on the part of the physician and his ability to obtain the confidence of the patient count for much in the relief of mental depression, a common feature of these cases, and like influences are to be obtained from change of scene and cheerful surroundings.

SURGICAL TREATMENT

As regards the operations of appendicostomy and cecostomy recently exploited with some enthusiasm by certain surgeons in the treatment of colitis, chronic constipation and other intestinal conditions hitherto regarded as within the scope of medical art, I can only say that I believe it is possible to reach any part of the colon by lavage through the rectum and the advantages to be gained in providing an artificial opening through which to apply local treatments are more than offset by the depressing effect of the operation and the presence of a fistulous tract which must later be closed. As Richardson has recently observed:

> Operations on the neurasthenic return nothing to the patient. Her last state is worse than her first and is often pitiable. The best rule is to forbid surgery until every medical and palliative measure has proved useless.

PROGNOSIS

The prognosis is, as a rule, favorable, although improvement is often tedious. It is impossible to give any statistical data on this point regarding the cases here referred to, as most of them have been lost sight of after leaving the springs. The immediate results have been most gratifying, and in a large proportion of those cases in which I have been able to follow the subsequent history, the improvement has been of a more or less permanent character. A considerable number have been cured.

A CASE OF EXTENSIVE LEUKEMIC INFILTRATION OF THE MAMMARY GLAND AND SKIN *

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This case is reported because it exhibits some rare features, as lymphatic infiltration of the lips, nose and pinna, and a most remarkable involvement of the mammary glands, which I have been unable to find described in the literature.

History.—Mrs. S., Austrian, aged 47, came to the Rush medical clinic complaining of shortness of breath, hoarseness, swollen lips and nose, and pain on swallowing. There was nothing of any moment in the family history. The patient had always enjoyed good health, and had had four children; no miscarriages. Her teeth, however, had been in a bad condition for years without receiving proper care. Her present trouble began about nine months before she came to the clinic with redness and itching of the nose, which was soon followed by swelling of the nose and lips. During this time she had been treated by various physicians for "cold" and eczema, and in the course of the treatment all her teeth were extracted.

Examination.—The patient was a medium-sized woman, fairly well nourished, skin clear; there was no jaundice or abnormal pigmentation. The lower eyelids were edematous; the pupils reacted to light and accommodation, and were rather contracted; the eye muscles worked well. The retinæ showed spots of a grayish exudate; the margins of both disks were somewhat indistinct and striated on the nasal side, but the sight was not appreciably impaired. There was no exophthalmos.

The nose appeared symmetrically enlarged, reddish in color, firm and indurated on palpation. Breathing through the nose with mouth closed was difficult and brought out a marked stridor.

The lips were considerably swollen, the upper somewhat more than the lower one; the mucosa was tense and shiny, the tissue hard and indurated. The patient complained frequently of a severe burning and itching sensation of the lips and to a less degree of the nose. The oral cavity was without teeth; the gum margins were ulcerated and bleeding, the palate was abnormally arched, and posteriorly there was a diffuse swelling which extended on both sides into the pharynx. Tonsils, palate and postpharyngeal wall, all seemed involved in this swelling. The voice was very hoarse or whispering. The dyspnea was at times associated with distinct stridor and marked inspiratory descent of the trachea. Periodically there appeared a violent, brassy cough.

The pinna of the right ear was enlarged to almost double its normal size and was of a reddish color, the tissue being firm and infiltrated. The left pinna was normal. Both drums were retracted and opaque in color. The hearing power was not diminished to an appreciable extent.

All superficial lymph-glands of the body were enlarged to a various extent. The least enlargement was in the glands of the neck, especially in those of the posterior triangle, although even these were easily palpable. There was no fusion of the glands and no fixation of the overlying skin. The largest superficial glands were those of the axillæ.

The mammæ appeared symmetrically enlarged, firm and infiltrated. The glands were somewhat movable; the skin over them was tense, shiny, but not fixed; the nipples were not retracted. No separate nodules could be felt in the glands. No connection between the mammæ and the large lymph-glands of the axillæ could be made out. The apex-beat was in the fifth space, inside the nipple-line and somewhat heaving. Extension of the heart to the right of the sternum could not be established by percussion. There was no thrill. The first sound in the mitral area was loud and short, ending in a distinct murmur. At irregular intervals an extra-systole was thrown in, and later a distinct gallop-rhythm developed. In the pulmonic area there was a rough, grating, systolic murmur, at times distinctly purring, so that pulmonic obstruction was suspected. (At autopsy, however, the valves as well as the aorta and pulmonic artery were found to be normal.)

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* From the Medical Clinic of Rush Medical College and the Department of Pathology of the University of Chicago.

Percussion note over the right lung was slightly dull, especially over the anterior aspect. Breath sounds were somewhat distinct, more so over the right lung. There were no râles.

The abdomen was full, and in the left hypochondrium a tumor mass was readily felt, which issued from beneath the left costal arch and extended beyond the umbilicus. The tumor was somewhat movable, descended with respiration, was slightly tender, of hard consistency, notched on the median surface. Slight percussion over the tumor brought out a flat note. The lower margin of the liver descended to about 2 inches below the costal arch in the mammary line; its consistency was not much increased; its surface was smooth. No glandular masses could be palpated in the abdomen. The umbilicus was freely movable and not retracted.

At the time of admission to the clinic a skin tumor as large as a small walnut was noticed in the posterior axillary line of the right side. This tumor disappeared later. The deep reflexes were normal.

The blood-count showed 110,000 white cells, 82 per cent. small and 6 per cent. large lymphocytes, and a moderate secondary anemia.

Transient skin-rashes (areas of hyperemia) were observed at different times.

The urine contained traces of albumin and a few casts; gravity 1.020.

Course of Disease.—The patient was under observation about three weeks. During this time the dyspnea was increasing and caused much discomfort to the patient. Tracheotomy was considered, but the general condition of the patient seemed to exclude such an operation. Venesection gave temporary relief. Toward the end there was marked cardiac insufficiency with gallop-rhythm, very irregular pulse and pulmonary edema.

According to the statement of the patient the disease began with redness and itching of the skin of the nose, that was soon followed by swelling of the nose and lips. She was treated for months for eczema by various physicians, and it seems likely that at this time the general swelling of the lymph-glands was not apparent. It is therefore reasonable to assume that the skin lesion was the earliest manifestation of the disease.

The most remarkable feature in this case was found in the condition of the mammary gland, a condition which I have failed to find described in the literature, although in a very few cases lymphomata have been reported in the lacrimal, parotid and maxillary glands in association with lymphomata outside the glands.[1]

An autopsy was performed by Dr. H. Gideon Wells, and the histologic study of the tissues was made by Dr. B. F. Davis, and an abstract of their report follows:

There were found the usual lymphatic hyperplasias of chronic lymphatic leukemia, lymphoid infiltration of the viscera, and in addition lymphoid infiltration of the skin of the nose and lips. The mammary glands were found replaced by a mass of lymphoid tissue of uniform consistence, resembling in its gross appearances sarcomatous tissue, the mass of new tissue when dissected away from the skin and adjacent fat tissue from one breast measuring 12 by 12 by 4 cm., and weighing 350 gm. Microscopically the normal tissue of the mammary gland was found to have disappeared almost entirely, the remains of an isolated gland tubule or duct being found only rarely in the mass of large and small round cells which make up the growth. These cells infiltrate the connective tissues in the nipple and areolæ up to, but not into the epithelium, accounting for the swollen condition of the areolæ. (A full report of the anatomic findings will be published in the *Transactions of the Chicago Pathological Society.*)

A NEW STAIN FOR BACTERIAL CAPSULES WITH SPECIAL REFERENCE TO PNEUMOCOCCI *

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After much experimentation the following method for staining bacterial capsules has been devised. It has proved of such value in a study of autolysis of pneumococci, in their identification in culture and exudates as well as in staining the capsule of *Streptococcus mucosus* and, with a slight modification, the capsule of the *Bacillus mucosus* also, that a brief report seems desirable at this time.

DIRECTIONS

Make a thin smear on a perfectly clean slide or cover-glass. If the material, such as sputum, is too thick, add enough distilled water so that it can be spread evenly by means of a piece of fine tissue or cigarette paper. In case of cultures (blood-agar, serum, glucose or Loeffler's blood-serum being preferable), remove a small amount of the growth from the surface of the medium and at once mix thoroughly with a loopful of serum on the slide, or, better still, make a rather dense suspension in a few drops of distilled water and then mix an equal quantity of this suspension with serum, and spread by means of tissue-paper. As the smear becomes nearly dry cover for ten to twenty seconds with 5 to 10 per cent. aqueous solution of tannic acid; wash in water and blot; stain with carbol [saturated alcoholic solution gentian violet (Grübler) 1 pt., 5 per cent. phenol in water, 4 pts.] or anilin gentian violet, half a minute to a minute, heat over flame but do not boil; wash in water again; Gram's iodin solution for half a minute to a minute; decolorize in alcohol (95 per cent.); stain for from two to ten seconds, depending on the thickness of smears, with saturated alcoholic (60 per cent.) solution of Grübler's eosin; wash in water and blot finally, clear in xylol and mount in balsam, or examine directly. (If the organism, like the *Bacillus mucosus*, is Gram-negative, the bacillus may be stained with Loeffler's or aqueous methylene blue.)

The pneumococci are stained deeply brownish black, sharply differentiated from the capsule, which is stained pink. Beautiful results are also obtained with the *Streptococcus mucosus.* In the thickest part of the smear the space occupied by the capsule may be perfectly clear; elsewhere in the smear, if properly made, where the conditions are suitable for absorption of eosin, the capsule is stained deeply pink; not rarely a clear retraction zone (often mistaken for the capsule in former methods) may be seen peripherally to a distinctly stained, often large capsule.

In case of sputum in which the cocci are embedded in a more or less tenacious mucus the capsules, at times, are not rendered stainable by the above method. In that case it is well to fix and stain simultaneously with the 2 per cent. aqueous tannic acid, 4 parts, and saturated solution of gentian violet, 1 part. This modification often gives beautiful results. The cocci, however, decolorize easily and the tannic acid-gentian-violet may be followed by carbol-gentian-violet and then the usual procedure. Ordinary carbol-fuchsin, diluted 5 to 10 times and aqueous eosin (50 per cent. sat.) may also be used to stain the capsule, although the saturated alcoholic (60 per cent.) eosin has given the best results. Decolorization after the modified Gram procedure of tannic acid-fixed smears is more rapid than in the case of heat-fixed smears, which should be borne in mind.

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[1] Pinkus: Ueber die Hautveränderungen bei lymphatischer Leukämie und Pseudo-Leukämie, Arch. f. Dermat. u. Syph., 1899, l, Nos. 1, 2.
Nekam: Leukämie der Haut, Monatschr. f. pract. Dermat., 1899, Ergänzungsheft.
Kaposi: Pathologie und Therapie der Hautkrankheiten, Vienna.
Kreibich: Ein Fall von leukämischen Tumoren der Haut, Arch. f. Dermat. u. Syph., 1899, xlvii, 185.
Kümmel: Mitt a. d. Grenzgeb. d. Med. u. Chir., 1897, ii, 111.

* From the Memorial Institute for Infectious Diseases. For a more complete report see Jour. Infect. Dis., 1911, viii.

By the use of this method it has been determined that the capsule of the pneumococcus and allied organisms is not difficult to preserve or readily soluble in water, as is generally believed. To stain the capsule is a problem of rendering it stainable rather than one of preservation. The reactions which render the capsule stainable appear to be colloidal reactions.

150 Michigan Avenue.

A PROBABLE CASE OF ANAPHYLAXIS

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In view of the present experimental investigations into the nature and occurrence of the reaction of anaphylaxis, and of the importance of the question to human serotherapy, it is important that clinical record be made of all observations bearing on the phenomenon. The following case of illness, not clearly understood at the time of its occurrence, now appears clearly to have been an instance of anaphylaxis, and is therefore reported.

The subject of the condition, a physician in San Francisco, in the winter of 1900-1 performed an autopsy on a case of bubonic plague. The body was that of a white man, and the history and location of the house in which the illness occurred led to no suspicion as to the nature of the disease. It was, in fact, the first death of a Caucasian that occurred in California from bubonic plague. No precautions were taken in the performance of the necropsy, and when on its completion the appearance of the organs and the microscopic findings of bacilli definitely determined to correspond in all morphologic features to the plague bacillus led to the diagnosis of plague, it was felt that the degree of exposure had been so great as to warrant the use of the Yersin serum. This was accordingly injected, 30 c.c. being used. Infection with plague did not occur, and in the course of time the incident was quite forgotten.

Nearly five years later the same physician was hunting deer in the mountains of California, in company with another man, the men having with them two horses. One of the horses, being green to the chase, resisted the efforts of the hunters to strap a dead buck on its back, and a lively tussle took place, during the course of which the physician had his forearms and hands badly scratched and lacerated by the metal parts of the bridle of the horse. On his return to the city a few days later, as he did not feel satisfied with the condition of the wounds, which had not been properly cleansed of the horse hairs and dirt from the horse, and which had not been treated with an antiseptic at all, these were all thoroughly cleansed, disinfected, and 20 c.c. of antitetanic serum injected as a prophylactic.

For a number of hours after the injection of the tetanus antitoxin, nothing was noted. Then suddenly the man was stricken with a universal, giant urticaria, with profound prostration. The attack lasted in its acute phases four days, the symptoms and signs being as follows:

1. *Giant Urticaria.*—This was very marked, the body being at times swollen almost past recognition. Three times the condition receded in part, only to recur with renewed violence. Following the acute attack, the skin did not reach its normal condition for ten days. The usual symptoms of this condition were present in great intensity, itching being almost intolerable.

2. *Tachycardia.*—With a normal temperature, the pulse during the attack ranged about 130 per minute. Physical examination of the heart elicited no abnormal signs other than the excessive rate.

3. *Diarrhea.*—A diarrhea of choleraic violence occurred, accompanied by the passage of large exfoliations or membranous casts of the intestine. This condition lasted for three days.

4. *Neuritis.*—On the night of the third day, a sudden sharp pain was felt in the rigat deltoid region, the skin over which soon gave evidence of anesthesia. Palsy in the muscles supplied by the circumflex nerve rapidly developed with the regular signs of a circumflex neuritis. The muscles wasted, gave typical reactions of degeneration, which, with the cutaneous anesthesia, persisted for months. Recovery, which finally occurred, was not complete, and there exists still some functional disability in the use of the deltoid and of the muscles lying between the deltoid and the spine of the scapula. Whether the neuritis was confined to the circumflex or extended to other branches of the plexus, does not concern the present report.

5. *Prostration of the Neuromuscular System.*—This may have been due, in part at least, to the diarrhea. Following recovery, however, the man was for a number of weeks profoundly asthenic.

The subject of this attack has never had any difficulties with asthma, nor has he ever been in the least "sensitive" to horses. The probable interpretation of the attack as an instance of anaphylaxis is based on the history of the two injections of horse serum with an interval of five years, and of the resemblance of the attack to the features of experimental anaphylaxis. It would be of great importance to determine whether now, after a further interval of five years, the individual is still "sensitized." Instructive as the results of an injection of horse serum at this date would be, the subject declines the experiment.

4522 Locust Street.

A CASE OF AIR EMBOLUS OCCURRING DURING OPERATION UNDER AIR-INFLATION URETHROSCOPY

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Some years ago I introduced to the profession my air-inflation urethroscope, and since that time I have been consistent in my advocacy of this instrument for both diagnostic and operative purposes. Within the past year, however, I have observed certain phenomena which have led me to question the wisdom of intra-urethral operations carried on under air-inflation. I have, therefore, taken advantage of this opportunity to sound a note of warning to users of this method.

Fenwick, in urethroscoping under air-inflation a stricture complicated by recent false passages, noted an emphysematous condition following, and speculated on the possibility of serious associated conditions. His description, quoted by William R. Fox,[1] is as follows:

> I examined with inflation a patient who had had profuse bleeding from attempts at catheterism some few hours before applying to me for relief. I was able to find the opening of the false passage with ease. It lay just below the pin-point orifice of the strictured part of the urethra, and it appeared as a bloody-edged, ragged slit. But the patient called out almost immediately that something was running down the

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[1] The Urethroscope: Its Development and Its Use, Australasian Med. Gaz., Oct. 20, 1906.

inside of his thighs, and I then became aware that air was passing freely through the opening of the "false passage" and escaping into the tissues of the perineum. There was no doubt but that the false passage was very extensive. No ill results ensued, but it is easily conceivable that damage of a grave description can be inflicted by unfiltered air passing over an inflamed surface and opening up extensive cellular planes in the thighs, perineum and pelvis.

Within the past year, while opening up infected follicles in the anterior urethra, I have observed two cases in which localized emphysema in the cellular tissue of the pendulous urethra occurred as a result of the air-inflation used during the operation. In neither of these cases was the local condition marked, nor were there any generalized symptoms. In both cases the emphysematous condition gradually disappeared within a few days without giving rise to any untoward symptoms.

In the following case, which forms the basis for this report, the emphysematous condition was so extensive, and the immediate symptoms so alarming in character, that a fatal issue seemed unavoidable. The possibility of similar complications arising in other cases of a like character has led me to the belief that extreme caution should be used in all intra-urethral or intravesical operations performed under air-inflation.

F. H. B., Douglas, Arizona, aged 35, married, family history negative, gave a history of intermittent urethritis for the previous fifteen years. The patient was first seen on Oct. 3, 1910.

Examination showed typical chronic urethritis of the anteroposterior type. Urethroscopy disclosed diffuse infiltration, a few infected urethral follicles tending to become cystic, and a band-like stricture on the floor of the urethra just anterior to the peno-scrotal junction.

After preliminary treatment, the air-inflation urethroscope was introduced October 12, and preparations were made for dividing the stricture through the urethroscope. The strictured area was cocainized by the application of a 2 per cent. solution, and after a few minutes the urethra was inflated with air and the stricture divided. An emphysematous condition of the cellular tissue in the neighborhood of the stricture was noted and almost immediately the patient complained of pains in the epigastrium and began to cough. He became rapidly cyanotic and the radial pulse became imperceptible. Auscultation over the cardiac area revealed the "whirr" of what was apparently considerable quantities of air passing through the heart. The heart-sound rapidly became feeble and then could not be detected. Respiration quickly ceased, not suddenly but progressively, as in the dying. The pupils were fully dilated and the eyes were fixed; in fact, the whole appearance of the patient was that of a cadaver.

Artificial respiration was employed and whisky administered hypodermatically. Within a short time feeble signs of returning life were noticed and the patient gradually recovered consciousness, though some air could still be heard whirring through the heart. The patient still complained of a feeling of oppression in the epigastrium and this feeling was noticeable in a gradually diminishing degree for a period of about one week.

The local emphysema was not marked and seemed to involve only the cellular tissue of the pendulous urethra. There was no emphysema of the scrotal tissues.

On the following day the patient complained of tenderness in the hypogastrium, especially marked on the left side. Examination revealed a fairly extensive emphysema of the abdominal wall, which slowly disappeared in about one week. No other symptoms of an untoward nature were noted.

There can be no question but that the causative factor of the serious symptoms in this case was air embolus. It is, however, astonishing what an amount of air was forced into the circulation without a fatal issue. This case cannot be regarded as merely an "accident" occurring during operative urethroscopy under air-inflation, though like symptoms have never been noted in my experience in similar operative work, which covers several hundred cases. Like "accidents" appeal to me as being ever-present possibilities in such work, and I would urge extreme caution in the employment of air-inflation urethroscopy for operative purposes.

707 Gloyd Building.

THE CAUSE AND TREATMENT OF DEFECTIVE MUTATION OF THE VOICE

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The change of the voice at puberty sometimes goes on improperly, and the young man acquires a high, falsetto tone instead of the regular tenor or base. The condition is very troublesome to the business man, and is particularly obnoxious in public speakers, clergymen, lawyers and military officers.

An examination of the larynx in such a condition shows the vocal cords to be excessively shiny and white, and apparently very tightly stretched. An external examination shows that in speaking or singing the larynx is pulled high up under the tongue and often rather forward toward the chin. The condition is evidently due to overcontraction of both the intrinsic and the extrinsic muscles of the larynx, whereby the vocal cords are stretched too tightly. The overcontraction is found only during singing and speaking. It is a purely nervous habit.

The treatment begins by teaching the person to sing on very low tones. At first the tones will be harsh and rattling, but they will gradually become natural. The pitch of the song is gradually raised until the patient sings over the normal range of voice. Another exercise consists of chanting sentences on a single low tone, which is gradually raised in pitch in successive exercises. A third exercise consists in singing the first word or two of a sentence on a low tone and finishing it by speaking. In a fourth line of work, exercises in singing and speaking are used while the patient presses the larynx down and backward by putting his fingers on the hyoid bone and on the notch at the front of the thyroid cartilage.

With such direct methods of treatment it is possible to eliminate the defect entirely, usually in a very short time. The cure is often completed in one or two weeks.

87 Madison Avenue.

Therapeutics

DRUGS USED TO ACT ON THE CIRCULATION

No part of the body is more maltreated medicinally than the heart. Some of such mistaken treatment is due to carelessness, some to lack of proper diagnosis and understanding of the pathology of the condition, while at other times it is due to an entire misunderstanding or ignorance of the action of the drugs used. At still other times there may be the most careful discrimination and the best possible judgment combined with a thorough understanding of the condition of the heart and circulation of a given patient, and still a drug will be used that does harm instead of good, or used in too large amount, or in insufficient amount. In other words, with all the knowledge we can bring to bear, it is not always possible to decide exactly what a heart and circulation need. Many times, probably, it would be better to use no circulatory drug rather than to use a wrong one.

Better to understand when a drug should be used and which drug should be used, it may be well to classify circulatory drugs in a way that will better show what to expect of them. It is absurd to use a slow-acting drug like digitalis when a quick stimulation of a heart is desired. It is also wrong to believe that alcohol will cause any more than a momentary stimulation of the heart; in other words, in cardiac weakness which lasts more than a very short time alcohol for this purpose is contra-indicated. It is also generally inadvisable to give a drug that raises the blood-pressure when a heart is laboring against high pressure.

The drugs used to act on the circulation may be subdivided as follows:

1. Drugs to stimulate the heart: alcohol, ammonia, and camphor.
2. Drugs to depress the heart: aconite (veratrum).
3. Drugs to strengthen the heart: caffein, digitalis, strophanthus, strychnin.
4. Drugs to contract the blood-vessels: atropin, ergot, epinephrin.
5. Drugs to dilate the blood-vessels: alcohol, nitrites.

As just stated, alcohol is a cardiac stimulant only for a short time and really acts for good in some abnormal circulatory conditions by dilating the blood-vessels.

Aconite is now rarely needed to depress the heart, as, if there is fever, a coal-tar product not only lowers the high temperature, but also depresses and quiets the heart.

Caffein and strychnin are both stimulants and tonics to the heart.

A cardiac stimulant may be defined as something that will stimulate the heart to greater activity but which, after its action is over, leaves the heart worse than it found it, unless the indication for such stimulation was a momentary one. In other words, such drugs are cardiac whips, and do not strengthen the heart.

A cardiac tonic may be defined as something that braces the heart and at the same time strengthens it; in other words, leaves it better than it found it. Such drugs are indicated in more or less continued cardiac weakness, and are not indicated in sudden emergencies.

As digitalis is one of the most important of the drugs above mentioned, and is a much misused drug, it seems well to describe its action first. The plan used in its description is the plan or scheme that seems the best for presenting the activities of a drug to the man who is to use the drug in actual practice, and the same scheme will be followed when other important drugs are described in this department.

DIGITALIS

Description.—Digitalis (genitive digitalis, Latin feminine noun, third declension). This drug was named by Fuchs, in 1542, after the German *Fingerhut,* a thimble. The United States Pharmacopeia recommends as official the dried leaves of *Digitalis purpurea,* the purple fox-glove, gathered during the second year of the growth of the plant while it is in flower. The *Digitalis purpurea* grows wild in Southern and Central Europe and England, and is cultivated in the United States, but the leaves of the cultivated plants are believed to have less medicinal value than those gathered from the wild plants. The so-called English leaves are preferable to the German leaves because they are cleaner and have been separated from the stalks on which they grow. Digitalis has rather a disagreeable, bitterish taste, but the infusion, which is made with cinnamon water, is less unpleasant.

The first investigator to obtain a crystalline active principle from this drug was Nativelle, in 1871, but as yet no active or alkaloidal principle has been separated that is so efficient in its action as preparations made from the crude drug by reliable chemists.

The exact chemical constitution of digitalis is not definitely established, but from the leaves by extraction with water and alcohol have been obtained the following:

DIGITALIS: A crystalline glucosid which is often prepared from the seeds and may, therefore, be an impure product containing active principles not found in the leaves. There are probably on the market to-day about four different substances under the name of digitalin some of which contain digitoxin and are therefore much more active and poisonous. Hence a given preparation of digitalin should be carefully tested by small doses before large doses are given. It is fairly soluble in water.

DIGITALEIN: A glucosid obtained from the leaves.

DIGITONIN: A third glucosid obtained from the leaves.

DIGITOPHYLLIN: A fourth glucosid, resembling digitoxin, recently obtained by Kiliani.

DIGITOXIN: A toxic principle more actively poisonous than the above glucosids.

Besides these active principles there are a resin, an acid, and a fixed oil.

There has been a good deal of discussion and difference of opinion as to the relative physiologic activity of a watery preparation of the leaves (the official infusion) and an alcoholic preparation of the leaves (the official tincture). An infusion should represent pretty much the whole activity of the digitalis, as water seems to extract the digitoxin and digitophyllin in the presence of digitonin glucosids. On the other hand, an alcoholic preparation of the leaves represents the best active principles, except the digitonins. The digitalins offered are prepared mostly from the seeds of digitalis. These probably are rarely one glucosid, but represent both digitalin and digitalein, with a small amount of digitoxin and probably some digitonins.

The most active part of digitalis is probably the digitoxin, and as these crystallin preparations represent less digitoxin than do the fluid preparations of the Pharmacopeia prepared from the leaves, these crystalline substances are not as active nor satisfactory medicaments.

Digitalis was first recommended to the medical profession by Dr. W. Withering, who wrote, in 1785, under the title of "An Account of the Fox-Glove,"of the results of using this drug in two hundred cases of dropsy and allied conditions during the previous ten years. In this article he strongly advises the use of digitalis as a diuretic, and also noted that it had good action on the heart.

Local Action.—This drug has no action on the skin, but has a slightly irritant action on the mucous membranes and, hence, when swallowed in strong preparation, or undiluted, or on an empty stomach, or when large doses are long repeated, will cause loss of appetite, nausea, perhaps vomiting, and even diarrhea. Preparations that do not contain digitoxin would not irritate the stomach as much, but such preparations are not so valuable therapeutically. Preparations injected subcutaneously may cause considerable irritation and perhaps inflammation, and even abscesses, though the latter are rare, but the preparations of digitalin will almost invariably cause some slight pain and slight local induration for a day or two.

The active principles of this drug are absorbed from both the stomach and the intestine, the rate of absorption depending, of course, on the preparation used, its concentration, solubility, and the condition of the stomach. Digitalis is ordinarily absorbed slowly unless there is some local irritating influence to make the absorption more rapid, hence the systemic effects of digitalis do not appear ordinarily for from six to twelve hours after the ingestion of the first dose.

Systemic Action.—The primary and chief constitutional effect of digitalis is on the *circulatory system.* The blood is not altered by digitalis except that it may become of lower specific gravity by a better circulation taking up more lymph. In non-poisonous doses the heart is slowed, its contraction is more energetic, and the blood-pressure is raised. The diastole is prolonged principally by the action of this drug on the pneumogastric center in the medulla, the stimulation of which tends to slow the heart. The contraction of the heart is more energetic on account of the irritation which this drug causes to the cardiac muscle, and this irritation and the resulting increased contraction is greatest on the part of the heart when there is the most muscular tissue, hence the effect is more pronounced on the ventricles than on the auricles, and more on the left ventricle than on the right. Under the action of digitalis the cardiac muscle improves in tone and hypertrophies because of the prolonged diastole giving much needed rest and hence causing muscle-recuperation, and the stimulation which the cardiac muscle receives acting like any other regulated gymnastic exercise to muscle tissue.

Three stages of the action of digitalis on the heart are recognized, the first stage being the one just stated, which is the desired therapeutic action. During this stage we believe that the cavities of the heart which physiologically do not completely empty themselves are absolutely emptied by the sturdy contraction. The papillary muscles tend to contract more completely as well as the other parts of the muscle walls of the ventricles and thus tend to diminish a valvular insufficiency. The prolonged diastole from the stimulation of the pneumogastric nerve tends to a more complete dilatation and therefore the blood more completely fills the cavities of the heart. This dilatation seems to be due to the inhibitory action on the pneumogastric center in the medulla, and also partially to the stimulation of the terminal endings of these nerves in the heart. The increased contraction of the heart, which also contains more blood than before the administration of the drug, expels more with each beat and under greater tension, and this results in raising the arterial blood-pressure.

To repeat, *with therapeutic doses* of digitalis the heart is slowed, the rhythm is normal, and the various parts of the heart contract more sturdily, the action on the auricles and ventricles being the same except that it is more marked where there is more muscle tissue.

With larger doses of this drug, or when the action is greater than therapeutics require, one of two conditions predominates: Either the stimulation of the pneumogastric or the stimulation of the cardiac muscle is too great, and generally the former predominates and the heart becomes very much slowed, and we have what is called the *second stage* of digitalis action. This inhibition acts more decidedly on the auricles than on the ventricles, the latter being more stimulated by the irritation of their greater amount of muscle tissue, and an irregular cardiac rhythm is caused, the auricles and ventricles not beating harmoniously although both ventricles always contract synchronously. We then have a very slow pulse and an irregular rhythm.

This stage is the stage of danger and the beginning of the *third stage* is not far distant, which is not the stage in which the pneumogastrics are paralyzed as has been stated, but in which the irritation of this drug on the cardiac muscle becomes so great as to cause the heart to beat very rapidly in spite of the inhibition. There may even be permanent contraction of the ventricles or a permanent systole of the whole heart and stoppage of the circulation. After such stoppage of the circulation the heart may dilate and remain dilated.

Digitalis is a *vasocontractor,* causing narrowing of the peripheral blood-vessels by stimulation primarily of the vasomotor center in the medulla oblongata, but it also stimulates the muscular coat of the arterioles. We have then an increased blood-pressure from three causes; from stimulation of the vasomotor center, from stimulation of the muscle-coat in the vessel walls, and from the increased amount of blood thrown into the aorta by the heart; hence the blood-flow in the capillaries is accelerated. The flow of blood through the arterioles and capillaries would, of course, be modified by the degree of the action of the digitalis on the heart. When the heart was toxically disturbed by digitalis the flow of blood in the arterioles would be decreased. Digitalis also increases the blood-flow in the pulmonary circulation as well as in the systemic.

Overaction of digitalis can cause irregular contraction of the blood-vessels so as to cause one or more extremities to feel cold and perhaps numb. Such overaction can also cause a feeling of constriction in the head, especially noticeable in the occipital region.

It is probable that when a heart is in normal condition the blood-pressure will not be much raised by the action of digitalis. If the heart, however, is defective, the blood-pressure is raised by its therapeutic use. In therapeutic dosage, however, it does not much contract the arterioles, although it has been claimed (Loeb) that the coronary arteries under the action of digitalis are lessened in caliber. This is probably not clinically the fact when digitalis is badly needed for a dilated heart, but may be the reason that, when there is supposed to be sclerosis of the coronary vessels with symptoms of angina pectoris, digitalis will generally add to the pain and increase the danger, and should not be used. Digitalis should never be used in internal hemorrhage, unless the hemorrhage is a capillary oozing or venous bleeding. Digitalis may therefore be of value in hemorrhage from the nostrils, in venous bleeding into the bronchial tubes, in venous bleeding from the kidneys, and in hemorrhoids.

An ordinary therapeutic dose of digitalis when the heart is in good condition affects the *nervous system* but little, but when the heart is in such condition as to require digitalis, by improving the circulation in the brain, it is a cerebral stimulant, and the mental condition of the patient is more active, and a drowsy or uncomfortable feeling of fulness in the head disappears. The medulla centers are all stimulated by digitalis.

Too large doses or cumulative doses of digitalis can overstimulate other centers in the medulla besides the cardiac inhibitory and vasoconstrictor, and may cause nausea and vomiting. Overaction of digitalis can also cause dilated pupils, blurred vision, irregular respiration, and finally convulsions.

In conditions of fever, digitalis does not seem readily to slow the heart though the temperature may at times be a little lowered. For some reason, the action of digitalis on the vagus or the inhibitory center does not work, hence if digitalis is given in feverish conditions, it should not be pushed, as any improvement of the vascular tone, or of the dyspnea, and an increase of the amount of urine and a diminution of the edema are signs of sufficient action, and it should not be attempted to push it to slowing of the heart. In fact, in conditions of prolonged fever, when the heart muscle has been weakened, digitalis should be given only in small doses. In mammals, digitalis probably never has any effect on the nerves or sensory organs except, as above stated, on the eyes.

The only effect of this drug on the muscular system is that of an increased and better blood-flow to the muscles. It has not been proved that smooth muscle-tissue other than those of the blood-vessel walls are much stimulated by digitalis, only such improvements as would occur from a bettered circulation.

The *glands* of the body are not affected except as improved circulation and nutrition increase their functional activity.

The *kidney* secretion or excretion is the only one affected, and here there is an increased flow of urine almost entirely due to an increase of the watery part.

Increase in the amount of urea in the urine under the action of digitalis varies with the condition of the patient. If the metabolism has been sluggish from poor circulation, the output of excretory products would be increased. If the circulation has been pretty normal the character of the urine is probably not much changed.

Whereas there may be slight stimulation of the kidney cells, the increased flow of urine seems to be almost entirely due to the increased blood-pressure and improved circulation. The increased circulation causes more lymph to be poured into the blood-vessels, this diluting the blood is one more reason for the increased action of the kidney.

Valuable as digitalis is in increasing the output of urine, in cardiac weakness, edema, effusions, etc., it is not good treatment to push digitalis to any extent, if used at all, when the kidneys are diseased.

This drug is largely but slowly *excreted* by the urine, one dose lasting for from twelve to twenty-four hours, or even longer, and we are probably almost never justified in giving a dose of digitalis oftener than twice in twenty-four hours. The heart and pulse may show the effect of the drug several days after it has been given continuously for a time. The active principles are mostly oxidized or broken up, and therefore cannot be found in any considerable amount in the urine.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action desired of digitalis used therapeutically is: to slow the heart; to increase arterial tension; to increase the output of urine; to improve all the results of circulatory weakness such as dyspnea, edema, and trophic disturbances due to poor circulation.

The heart should rarely be slowed by digitalis below sixty, or at most fifty beats a minute. If it is slowed beyond this point, or if there is a feeling of constriction in the head, or there are cold and numb sensations in one or more extremities, or there is a distinct reduction in the amount of urine passed in twenty-four hours, or the pulse becomes irregular, or there is nausea or vomiting, *too much digitalis* is being given and it should be stopped. Any or all of these symptoms can develop during the administration of therapeutic doses, due to the so-called *cumulative action* of digitalis. This may be caused by some chemical condition in the gastro-intestinal canal causing more rapid absorption than usual of several doses, or the rate of excretion can be diminished by the kidneys not acting well, and the above symptoms of overaction can develop. Delirium and hallucinations occur as a symptom of cumulative or over-action of digitalis.

When giving digitalis in large doses it should be remembered that the full effects of a single dose may not appear for from twenty-four to even sixty hours. Consequently, when a result desired is not immediately obtained, large doses should not be repeated, and smaller doses should not be given too frequently.

Idiosyncrasy against this drug probably does not occur, but tolerance probably depends on the condition of the kidneys; the more perfect the kidney, the greater the tolerance. The parts of the drug longest tolerated without cumulative effects are probably digitoxin and digitalinum, while the whole drug, representing all the various active glucosids, in large doses too frequently repeated, owing to slow excretion, can readily cause the above undesired symptoms of cumulative action. When an unusual tolerance to the drug is shown, it is probable that the preparation is inactive, and the various records presented of the harmlessness of repeated large doses of digitalis are explainable by the inactivity of the drug or preparation used. When large doses are being administered to a patient, or he is thoroughly under the influence of digitalis, he should be frequently seen by the physician. Any sudden exertion by a patient when under the full influence of digitalis must be positively prohibited.

The *toxic symptoms* of digitalis are a rapid, irregular heart, the auricles not beating synchronously with the ventricles, cold hands and feet, nausea, vomiting, dizziness, disturbed respiration, lowered temperature, muscular weakness, and final collapse with delirium cordis or cardiac paralysis. The face may be pale, the sclerotics may be bluish, there may be diarrhea, there may be suppression of urine, and there may be delirium and convulsions.

Digitoxin is the most active poison of the digitalis active principles, although it is the most rapidly eliminated.

Treatment of Digitalis Poisoning.—There is no good physiologic antidote and no good chemical antidote, if the poison is in the stomach, except the physical treatment of removing it by emetics or by stomach washing. Tannic acid and tincture of the chlorid of iron are feeble chemical antidotes. The patient should be kept absolutely at rest. The body temperature should be kept up with dry heat applications. Artificial respiration may be advisable and necessary. Moist, hot applications to the lumbar region may be of advantage in aiding a relaxation of the kidney vessels, which will allow the drug which has been absorbed to be excreted gradually. Brandy and whisky and nitroglycerin to dilate the arterial system and cause more blood to reach the surface of the body and relieve the strain on the heart, are along the line of physiologic antidotes. After the stomach has been emptied, magnesium sulphate, or some other quickly acting saline cathartic, should be given in order to prevent absorption of any of the drug that may be in the intestines.

(To be continued)

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A NEW THEORY OF SHOCK

Notwithstanding the rapid advance made in some of the fundamental problems confronting the surgeon, such as infection and hemorrhage, shock has remained more or less of an enigma. Indeed, most of the large amount of investigative work which has been done in connection with this subject has served only to enrich our knowledge of the phenomena occurring in association with it; so that although we have at present a better understanding of its symptomatology, yet almost nothing has been done which convinces us of its fundamental nature. Thus Crile[1] and Romberg and Pässler[2] have independently observed that during shock the arterial pressure falls; and from this observation they concluded that this drop of pressure was the "essential phenomenon," and that shock was fundamentally due to a vasomotor failure.

Hardly had this conclusion been reached, however, when Seelig and Lyon and others disproved it by demonstrating conclusively that instead of a failure of the vasomotor system there is actually a great activity, at least up to the last stages of shock. So no sooner has one theory been advanced to explain it than further work has served to disprove or at least to minimize the importance of that theory.

During the past two years, however, a series of articles has appeared by Yandell Henderson, of New Haven,[3] dealing with an elaborate experimental investigation of shock from an entirely new basis. Briefly, Henderson believes that the condition primarily is due to a diminished amount of carbon dioxid in the blood and tissues of the body. This lack of the normal amount of carbon dioxid is termed acapnia. His experimental results are most interesting; and they are full of much practical suggestion to the surgeon because they seem to show that some of the technic, commonly practiced, is based on erroneous ideas. In a short summary of this kind necessarily only a few of the most interesting features of the work can be cited.

Henderson reviews the literature of carbon dioxid as a hormone, or chemical regulator, of respiration to show that the failure of circulation and of the nervous system in shock and the cessation of respiration in true apnea must logically be referred to the same cause—acapnia.

Experiments on dogs, which were devised to bring about a sudden great diminution in the carbon dioxid content of arterial blood, resulted in an increase of the heart-rate up to the point of cardiac tetanus and death. Voluntarily forced breathing in man induces symptoms resembling shock, probably because the increased pulmonary ventilation results in an abnormally great exhalation of carbon dioxid. Pain, ether, excitement, sorrow, fear and other conditions inducing shock involve excessive respiration. Because a marked diminution in the amount of carbon dioxid in the arterial blood creates a lack of the normal stimulation of respiration, excessive artificial respiration in dogs for twenty-five to thirty minutes, by causing greatly increased pulmonary ventilation, is followed by a cessation of breathing so prolonged that the heart fails for lack of oxygen. During this anoxemia an acidosis occurs owing to an accumulation in the blood of products of incomplete tissue combustion. The administration of carbon dioxid gas during the period of cessation of respiration induces an immediate return of natural breathing; and the administration of oxygen affords ideal conditions for the prevention of the asphyxial acidosis. Anesthetics tend to prevent shock because they diminish the excessive respiration caused by pain. The respiratory excitement during the initial stages of anesthesia diminishes the carbon dioxid content of the blood, and thus tends to induce a subsequent failure of respiration. Similarly, ether, unless neutralized by morphin, often causes (in dogs) hyperpnea, acapnia and a consequent fatal apnea. Of particular interest in this connection are observations by W. D. Gatch[4] in several hundred anesthesias during which patients were allowed to rebreathe some of their own carbon dioxid. In no instance was there any evidence of shock. These observations seem to confirm Henderson's theory to a greater or less degree; and they lend evidence to his statement that "skilful anesthesia consists in maintaining the threshold of the respiratory center for carbon dioxid at a nearly normal level, and in avoiding the development of either acapnia or hypercapnia."

The section of the work dealing more particularly with the relation of shock to abdominal operations is of special importance because of its bearing on many cases of hitherto inexplicable postoperative ileus. It is shown that the loss of tonus of the abdominal viscera during and after laparotomy is almost certainly due to the direct exhalation of carbon dioxid from the organs during the time of exposure. Indeed, Henderson states that the common practice among surgeons of wrapping viscera in moist hot compresses repeatedly changed is an effective means of producing shock instead of preventing it, because by this means the exhalation of carbon dioxid from the viscera so treated is greatly facilitated. He emphasizes his assertion by experimentally producing a high grade of shock by this means. Similarly, subjecting the viscera, even while still in the abdomen, to a mild current of warm moist air, with practically no trauma, rapidly produces congestion and loss of tonus and motility. Here again the results obtained are probably due to an excessive elimination of carbon dioxid from the viscera; for when this gas is restored to the body by injections of saturated solution intravenously into the peritoneal cavity or directly into the lumen of the bowel, or by immersion of the bowel in warm saline solution saturated with carbon dioxid, an effective relief from all except the extreme stages is accomplished.

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[1] Surgical Shock, 1899.

[2] Deutsch. Arch. f. klin. Med., 1899, lxiv, 652.

[3] Am. Jour. Phys.

[4] The Journal, March 5, 1910, p. 775.

Finally, by no means the least important feature of the work is a description of a hitherto unknown "venopressor" mechanism. It is failure of this mechanism, rather than of the vasomotor apparatus, which, according to Henderson, is responsible for the phenomena, observed by Crile and others, of lowered arterial pressure and venous dilatation.

NOSTRUM ADVERTISING—LAY AND MEDICAL

Hardly a day passes that we do not receive letters from physicians protesting against the utter lack of honesty shown by some newspapers in carrying fraudulent "patent medicine" and quack advertisements. That every right-thinking man—physician or layman—has good cause for indignation in this matter, no one can deny. Many of the advertisements of nostrums and of quacks are fraudulent to a degree and as vicious as they are fraudulent. But the newspapers are not alone in these defections. Before we physicians criticize the lay press too harshly, let us be sure that we are not giving moral and financial support to medical journals which, in their own special field, are just as recreant to the trust reposed in them as any nostrum-reeking newspaper.

The "patent medicine" advertisements in the newspapers are more likely to arouse our scorn because, as physicians, we know the hollowness of the lies that characterize the claims made for these nostrums. But the difference between the falsehoods of the "patient medicine" faker and the prevarication of many exploiters of "ethical proprietaries"—heaven save the mark!—is one of degree, not of kind. The former utters the "lie direct"; the latter, the "lie with circumstance." The former frames his untruths in bald and crude Anglo-Saxon; the latter serves his fiction in the more polished Norman-French. The former defrauds and injures the public direct; the latter accomplishes the same end by the, unwitting, aid of the physician.

It is inconsistent and absurd for a physician to exhibit a spasm of indignation because some newspapers carry fraudulent medical advertising, so long as that physician is subscribing for, and supporting, a medical journal whose advertising ethics are just as low as those of the newspapers he condemns. We hold no brief for the lay press and we realize to the fullest the gross deceit, fraud and hypocrisy exhibited by some newspapers in their attitude on the subject of nostrum and quack advertising. It is a fact, nevertheless, that there are many newspapers and still more weekly and monthly magazines, whose advertising standards are infinitely higher than those adopted by a large number of medical journals. Of course it is detrimental to public health for fraudulent "patent medicines" to be advertised in the newspapers and sold to the laity. But, let us remember, it is also detrimental to the public's well-being for secret, and frequently fraudulent, mixtures to be advertised in medical journals and used by physicians on the laity. To deplore the former while we continue to tolerate the latter is neither good sense nor good morals.

THE PRESENT PLAGUE SITUATION

As has been noted in our news columns, alarming newspaper notices have recently appeared regarding the occurrence of plague in Manchuria, and these are substantially corroborated by official reports,[1] which indicate that the disease is especially severe, and that it threatens all north China.

The outbreak began Oct. 25, 1910, and from that date until Dec. 11, 1910, there had been reported 493 cases with 491 deaths, most of them having been discovered at Manchuria Station and other points near Harbin in the concession of the Chinese Eastern Railway. Cases had also occurred, however, in towns outside the railway concession, and it was recognized that the continuance of cases in these latter localities would be a constant menace even though the authorities within the conceded railroad zone were able to prevent the spread of the epidemic from already infected stations. Since the beginning of the outbreak in the vicinity of Harbin, the infection has spread to Fuchiatien, Mukden, Chang Chun, Kirin, Tientsin, Paoting-Fu, Chefoo, and Pekin. While Harbin and Mukden are the points most affected and while the mortality is largely among natives, yet in the former place eighteen Russians and one French physician have died. The infection is unusually virulent, and appears to be spreading rapidly, so that all of north China may be regarded as being threatened.

Great importance attaches to the occurrence of plague in this part of China, since it is near the seat of government, and an epidemic here may have an important bearing on international relations with that country. It is understood also that the gravity of the situation is appreciated by our government, which recognizes the great danger to life and the threatened injury to the commerce of the world. The epidemic of plague in Manchuria, however, must be regarded as an extension of the sixth pandemic of that disease, which had its origin in south China in 1893, and since that time, spread to over fifty countries throughout the world. On account of the limited amount of communication by means of ships and shipping, and the almost entire absence of immigration from north China, the epidemic of plague in Manchuria is not at present a serious menace to the health of the United States or its possessions. It indicates, however, that the infection is slowly spreading, and recalls the occurrence of outbreaks in other parts of the world, which are a distinct menace to America and its commerce. In many parts of south China plague continued to prevail during the year 1910. In Japan, cases of the disease have occurred in four important centers, including Osaka and Yokohama. In India there was an increase in the number of fatal cases as compared with the two previous years. In Argentina, Brazil, Ecuador, Peru and Venezuela, plague has also been reported during the year as being more or less widespread. In Africa, the disease has been reported from widely separated localities, and prevailed in Egypt in epidemic form. In Europe, cases and deaths were reported from St. Petersburg, Moscow and Odessa, Russia; Lisbon, Portugal; and Suffolk County, England. In the United States, two human cases were reported from rural districts of California. Plague may accordingly be regarded as now being present on every continent.

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[1] Public Health Reports, Jan. 27, 1911, p. 97.

While only two human cases occurred in California, infected ground-squirrels have been reported from ten counties of that state since April, 1909, as a result of systematic examinations of 253,312 rodents. Recognition of the prevalence of the disease among ground-squirrels in rural districts, the absence of the infection from cities, the natural barrier afforded by the barren mountainous section intervening, and the prosecution of vigorous antiplague measures in the infected area, have decreased the potential danger to other sections of the country outside of California. Continuation of the systematic campaign that is now being waged against ground-squirrels should further limit this danger to the population in the infected area, and reduce the liability of the spread of the disease to a minimum.

On account of the limited communication with Oriental, African and South American ports, and because of the precautions taken at our quarantine stations, the presence of plague in these ports is not now a serious menace to the health of the country. Of greater significance is the occurrence of the disease in Europe, especially in England, as in Suffolk County rat plague is reported as being widespread, and there is said to be no precise knowledge as to how long the infection has prevailed.[2] The enormous traffic with England by means of shipping makes the prevalence of rat plague in that country a matter of immediate concern. Even though the disease should not spread there and become prevalent among man, its presence among rodents is an element of danger to shipping that must be taken into account.

In reviewing the present status of the sixth pandemic of plague, it is evident that it has begun to recede in only a few isolated localities, and that there yet remains much territory capable of infection. Since the disease seems to be primarily one of rodents, account must be taken of any unusual mortality among them, at least in all ports having relations with infected countries. It would seem, therefore, to be the duty of local health authorities to examine systematically from time to time rodents collected in their jurisdictions, to encourage the rat-proofing of houses, and otherwise to correct insanitary conditions responsible for the continuance of plague in cities.

Current Comment

ENCOURAGING A NATIVE STRAIN

The immigration of peoples from the old countries of Europe and the consequent mingling of races is rapidly reducing and displacing the original stock of the founders of our nation, and, some believe, to the detriment of its sturdier and more desirable qualities. It will be a matter of surprise to many that in the Appalachian region of the United States, having its center, perhaps, in eastern Kentucky, there are said to be nearly three million people, of almost pure Colonial stock, largely isolated by topography and lack of transportation from much of the education and culture of the more accessible regions, but at the same time free from much of the physical and perhaps moral deterioration of the thickly populated centers. In the people of this comparatively unmixed stock many prominent men acquainted with them see a valuable asset to our nation which should be preserved and encouraged. In the center of this region is Berea College, at Berea, Ky., a religious but non-sectarian institution, with over a thousand students drawn from these people, which is endeavoring to bring to them some of the cultural advantages of the larger and better equipped and endowed schools, together with instruction in practical and technical matters such as in agriculture, mechanics, woodwork, household management, etc. The endeavor is to make the school adequate for every need of these people, and to help to build up to the highest point a community of homes and institutions that shall make these mountain regions "a good place to be born in," "a storehouse of national vigor." Toward this end the school has recently established a hospital to care for the students and a department of health to investigate the diseases which characterize the region, and to disseminate, through the student body and through the extension service which the college maintains, proper ideas of diet, cleanliness, care of the sick, the development and care of children and the thousand and one things that make for correct hygienic living among the people. The institution, while it has a small endowment, is poor and depends largely on private beneficence. It therefore makes an appeal for support and particularly for assistance in building up its health and research department, to the end that it may, in its special field, attain the best results in fostering and improving the health, culture and practical efficiency of these real American citizens.

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[2] Lancet, Nov. 5, 1910, p. 1353.

CARELESSNESS VS. MISREPRESENTATION

Those who have followed the work of the Council on Pharmacy and Chemistry and of the Association Laboratory in their efforts to safeguard the interests of the medical profession and the public will be interested in the report on bismuth iodo-resorcin sulphonate that appears in this issue. The case there presented is not one in which a manufacturer has deliberately misrepresented his product; rather it is a case of carelessness. In submitting its product to the Council, the firm made statements which it could, and should, have known were not true. The question arises: if a firm is careless enough to make incorrect statements to the Council on Pharmacy and Chemistry which it knows will critically examine the claims, what degree of "carelessness" may be expected when the products are exploited direct to physicians? The answer, which must occur to any thinking person, is such as to make one pause.

EMPLOYMENT FOR CURED TUBERCULOSIS PATIENTS

With the rapid increase in sanatoriums, both public and private, for the treatment of tuberculosis, the employment of the considerable number of persons discharged from them with the disease either arrested or cured has become a problem of importance, and one that is not easy of solution. It is believed by many with experience in this regard, however, that unless the conditions are too bad, or impossible, the ex-patient with his sanatorium education in hygiene and correct living, should return to his former occupation. It frequently has been found that perhaps the fourteen or sixteen hours outside of the shop or office have contributed more to the patient's breakdown than the eight or ten working hours. The readjustment to a new occupation is not always feasible, and may entail financial sacrifices that are impracticable for the patient. In cases in which it is not possible for the patient to return to his former occupation, a partial solution of the problem has been found in the training of the discharged women patients as nurses for the care of tuberculosis patients. This plan was adopted in the Phipps Institute in 1903 and has been extended to the White Haven Sanatorium in Pennsylvania, to the Ohio State Sanatorium and to other institutions where training-schools have been established. Dr. Lawrence F. Flick,[1] in describing the results of this work in Pennsylvania during the past seven years, says that it is the unanimous opinion of those who have watched these graduates in their work that the occupation of nursing consumptives is one of the best which a cured consumptive woman can take up for the preservation of her own health: and that the cured consumptive who has been trained for tuberculosis work makes by far the best nurse for tuberculosis patients. The confidence which such cured patients get from their experience, and the living evidence of the curability of tuberculosis which they themselves furnish, help them to win the confidence of their patients and to secure their cooperation. There are more demands from sanatoriums and dispensaries for these graduate nurses than can be supplied. The entrance of such trained women into this field brings a missionary spirit which means much in the crusade against tuberculosis.

THE DANGER FROM TRANSMISSION OF INFECTIOUS MATERIALS BY MAIL

Occasionally complaints are made to the effect that the sending of pathologic and bacteriologic materials through the mails by physicians and others constitutes a dangerous menace to public health. There is no good reason for fear of this kind at the present time. The postal regulations prescribe with great exactness just what materials of the kind now in mind may be sent and how they must be packed in order to be accepted for transmission. Failure to follow instructions is subject to heavy penalties. The packages required certainly appear proof against accidental spilling. The only possible danger will arise from improperly and carelessly packed materials. So far as it is now known, there are no records of definitely established instances of spread of infection through carelessness of this nature. But it should be borne in mind that it is not only a great convenience but in most cases an actual necessity to send material away for examination; in probably the majority of the cases this is done in order that public health may be protected by the application of the results of the examination. It is needless to say that whatever the mode of transmission, all infectious materials must be so packed as to avoid all danger, and that this simple duty is everywhere fully recognized by the conscientious physician.

OPIUM PRODUCTION IN THIS COUNTRY

It is said that an application has been made to the collector of internal revenue at Chicago for a license to manufacture opium for smoking purposes. As the revenue law forbids the importation of opium, except for medicinal purposes, the applicant was naturally asked where he expected to get his supply. He replied that he expected to produce it himself from a plantation already in existence in this country. If this is true, it affords some room for reflection. Laws against the importation of opium will be of little effect if its production is successfully undertaken in our own country; and how far this may be done is worth investigating. In view of our wide range of climate and soil there is little doubt that the opium poppy can be successfully cultivated here. In fact, opium of good quality has been produced in the commerce of the world. The epidemic of plague in Manchuria, however, must be regarded as an extension of the sixth pandemic of that disease, which had its origin in south China in 1893, and since that time, spread to over fifty countries throughout the world. On account of the limited amount of communication by means of ships and shipping, and the almost entire absence of immigration from north China, the epidemic of plague in Manchuria is not at present a serious menace to the health of the United States or its possessions. It indicates, however, that the infection is slowly spreading, and recalls the occurrence of outbreaks in other parts of the world, which are a distinct menace to America and its commerce. In many parts of south China plague continued to prevail during the year 1910. In Japan, cases of the disease have occurred in four important centers, including Osaka and Yokohama. In India there was an increase in the number of fatal cases as compared with the two previous years. In Argentina, Brazil, Ecuador, Peru and Venezuela, plague has also been reported during the year as being more or less widespread. In Africa, the disease has been reported from widely separated localities, and prevailed in Egypt in epidemic form. In Europe, cases and deaths were reported from St. Petersburg, Moscow and Odessa, Russia; Lisbon, Portugal; and Suffolk County, England. In the United States, two human cases were reported from rural districts of California. Plague may accordingly be regarded as now being present on every continent.

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Those who have followed the work of the Council on Pharmacy and Chemistry and of the Association Laboratory in their efforts to safeguard the interests of the medical profession and the public will be interested in the report on bismuth iodo-resorcin sulphonate that appears in this issue. The case there presented is not one in which a manufacturer has deliberately misrepresented his product; rather it is a case of carelessness. In submitting its product to the Council, the firm made statements which it could, and should, have known were not true. The question arises: if a firm is careless enough to make incorrect statements to the Council on Pharmacy and Chemistry which it knows will critically examine the claims, what degree of "carelessness" may be expected when the products are exploited direct to physicians? The answer, which must occur to any thinking person, is such as to make one pause.

EMPLOYMENT FOR CURED TUBERCULOSIS PATIENTS

With the rapid increase in sanatoriums, both public and private, for the treatment of tuberculosis, the employment of the considerable number of persons discharged from them with the disease either arrested or cured has become a problem of importance, and one that is not easy of solution. It is believed by many with experience in this regard, however, that unless the conditions are too bad, or impossible, the ex-patient with his sanatorium education in hygiene and correct living, should return to his former occupation. It frequently has been found that perhaps the fourteen or sixteen hours outside of the shop or office have contributed more to the patient's breakdown than the eight or ten working hours. The readjustment to a new occupation is not always feasible, and may entail financial sacrifices that are impracticable for the patient. In cases in which it is not possible for the patient to return to his former occupation, a partial solution of the problem has been found in the training of the discharged women patients as nurses for the care of tuberculosis patients. This plan was adopted in the Phipps Institute in 1903 and has been extended to the White Haven Sanatorium in Pennsylvania, to the Ohio State Sanatorium and to other institutions where training-schools have been established. Dr. Lawrence F. Flick,[1] in describing the results of this work in Pennsylvania during the past seven years, says that it is the unanimous opinion of those who have watched these graduates in their work that the occupation of nursing consumptives is one of the best which a cured consumptive woman can take up for the preservation of her own health; and that the cured consumptive who has been trained for tuberculosis work makes by far the best nurse for tuberculosis patients. The confidence which such cured patients get from their experience, and the living evidence of the curability of tuberculosis which they themselves furnish, help them to win the confidence of their patients and to secure their cooperation. There are more demands from sanatoriums and dispensaries for these graduate nurses than can be supplied. The entrance of such trained women into this field brings a missionary spirit which means much in the crusade against tuberculosis.

THE DANGER FROM TRANSMISSION OF INFECTIOUS MATERIALS BY MAIL

Occasionally complaints are made to the effect that the sending of pathologic and bacteriologic materials through the mails by physicians and others constitutes a dangerous menace to public health. There is no good reason for fear of this kind at the present time. The postal regulations prescribe with great exactness just what materials of the kind now in mind may be sent and how they must be packed in order to be accepted for transmission. Failure to follow instructions is subject to heavy penalties. The packages required certainly appear proof against accidental spilling. The only possible danger will arise from improperly and carelessly packed materials. So far as it is now known, there are no records of definitely established instances of spread of infection through carelessness of this nature. But it should be borne in mind that it is not only a great convenience but in most cases an actual necessity to send material away for examination; in probably the majority of the cases this is done in order that public health may be protected by the application of the results of the examination. It is needless to say that whatever the mode of transmission, all infectious materials must be so packed as to avoid all danger, and that this simple duty is everywhere fully recognized by the conscientious physician.

OPIUM PRODUCTION IN THIS COUNTRY

It is said that an application has been made to the collector of internal revenue at Chicago for a license to manufacture opium for smoking purposes. As the revenue law forbids the importation of opium, except for medicinal purposes, the applicant was naturally asked where he expected to get his supply. He replied that he expected to produce it himself from a plantation already in existence in this country. If this is true, it affords some room for reflection. Laws against the importation of opium will be of little effect if its production is successfully undertaken in our own country; and how far this may be done is worth investigating. In view of our wide range of climate and soil there is little doubt that the opium poppy can be successfully cultivated here. In fact, opium of good quality has been produced in the

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[1] Jour. Outdoor Life, January, 1911.

United States, but hitherto the expense has been prohibitory from a commercial point of view. If opium can be cultivated here in commercial quantities, some legislation is needed. When China is prohibiting an abuse which is disastrous to the physical and moral welfare of the people, it is no time for the United States to encourage it. Opium should be produced only under the strictest regulations.

NEED OF CAUTION IN THE USE OF SALVARSAN

The introduction of a new drug or the announcement of a new method of treatment is always attended by two possible evils. One is the unwarranted optimism aroused by the claims made by over-enthusiastic advocates. This evil is corrected by time, added experience and critical investigation, and while it often leads to disappointment, it is apparently unavoidable. The second and far more dangerous evil is the exploitation of the new discovery by the faker and the quack who are quick to seize the golden opportunity offered and to use the public interest for their own selfish advantage. Such has been the history of every great discovery in medicine. It therefore behooves both the medical profession and the public to exercise a healthy skepticism regarding first claims made for any newly discovered method of treatment. In view of the enthusiasm which greeted the discovery of salvarsan ("606"), it is not surprising to know that it is not fulfilling the first claims made for it and that the public interest aroused by it is being used by fakers and charlatans to deceive and defraud the public. In another department of The Journal[1] appears a discussion of our present knowledge of salvarsan, its limitations and dangers and the use which is being made of it by quacks. It is the duty of every physician to inform himself on this subject so as to be able to enlighten his patients and the public. In the general enthusiasm over the discovery of a drug which gives promise of being a valuable addition to our armamentarium, it must not be forgotten that salvarsan is an arsenic compound and, as such, is a dangerous poison unless used intelligently; that it can be administered only hypodermically or intravenously, and consequently cannot be self-administered by the patient; that its use may be followed by serious and even disastrous results, and that it should, in no case, be taken except under the personal direction of a competent physician. The extent of the ravages of specific diseases is shown by the almost universal interest aroused by the announcement of this discovery. Physicians and medical societies should see to it that this interest is not taken advantage of by quacks to exploit, to their own gain, the diseased and the unfortunate.

Repair of Fractures.—From a practical viewpoint, the processes entering into the repair of fractures are manifestly those of effusion and infiltration and their proper management; resorption of the effused fluids and particles of destroyed tissue material; the utilization of the callus to the best advantage by ideal fixation; retention following the fixation; and to these principles may be added the prevention of callus redundancy, which is usually the result, it may be added, of undue mechanical irritation or imperfect approximation.—G. F. Roehrig, in *Denver Medical Times and Utah Medical Journal.*

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1. See page 436.

Medical News

CALIFORNIA

New County Society.—The Tulare County Medical Society has been organized at Visalia with the following officers: president, Dr. Thomas DeH. Blodgett, Tulare; vice-president, Dr. Mark L. Pettit, Visalia, and secretary-treasurer, Dr. F. Leslie Stallings, Lindsay.

Physicians On Trial.—Dr. Willard P. Burke, Santa Rosa, charged with having dynamited a tent-house where a former employee and her child were sleeping, is said to have been found guilty, January 27.——The coroner's jury in the case of Millie Conce who died at the Mount Zion Hospital, San Francisco, recently, rendered a verdict that the girl had died from the effects of an abortion, which was inflicted by herself. The verdict completely exonerated Dr. Marion Thrasher.

Personal.—Dr. C. W. Harvey, Anaheim, has succeeded Dr. Clayton L. Rich, Fullerton, as district and local surgeon for the Santa Fe Railroad.——Dr. and Mrs. William H. Mays, Newman, sailed for the Mediterranean, February 4.——Dr. Charles L. King, Pasadena, fractured his left leg and sustained many bruises and cuts, in a collision between his automobile and a street car, January 21.——Dr. William F. McNutt, San Francisco, was painfully injured by falling on a slippery pavement.——Dr. George L. Eaton, San Francisco, has been unanimously elected president of the local board of health.

CONNECTICUT

New Superintendent.—Dr. Donald L. Ross, assistant physician in charge of the reception of patients at the King's Park Hospital for the Insane, New York, has been appointed superintendent of the Connecticut Colony for Epileptics, Mansfield.

Donates Tuberculosis Pavilion.—A gift of $25,000 has been made to the town of Greenwich by Mrs. Nathaniel Witherell for the erection of a tuberculosis pavilion on the grounds of the Greenwich General Hospital, to be known as "The Nathaniel Witherell Memorial."

Society Meetings.—The surgical section of the Hartford Medical Society at its annual meeting, held January 3, reelected Dr. Arthur J. Wolff, chairman; Dr. Ernest A. Wells, secretary; Dr. Thomas N. Hepburn, treasurer, an[illegible]rles E. Taft, member of the executive committee.—[illegible]stol Medical Society at its annual meeting electe[illegible]arles R. Upson, president; Dr. E. Parker Sanborn, [illegible]ent; and Dr. Benedict N. Whipple, secretary and [illegible]——The annual meeting of the Hartford Medic[illegible] was held in Hunt Memorial Building, January 2, and the following officers were elected: president, Dr. Marcus M. Johnson; vice-president, Dr. Oliver C. Smith; secretary, Dr. Albert R. Keith; assistant secretary, Dr. Edward A. Hotchkiss; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner, and censors, Drs. Charles S. Stern, John B. Waters and Edward O. Elmer.——The Society of Regular Physicians held its annual meeting in New Britain, January 3, and elected the following officers: Dr. Catherine H. Travis, president; Dr. James H. Potts, vice-president; Dr. George H. Bodley, secretary and treasurer, and Drs. Maurice W. Maloney, William W. Brackett and Samuel W. Irving, censors.

DISTRICT OF COLUMBIA

Personal.—Dr. Percy G. Smith, superintendent of the District Tuberculosis Hospital has resigned and has been succeeded by Dr. William D. Tewksbury.——Dr. Harvey W. Wiley has been elected president of the Cosmos Club.——Dr. Ernest P. Magruder has returned from abroad.——Dr. Benjamin R. Logie has succeeded Dr. Presley B. Hunt, deceased, as alienist for the district.

District Society Election.—The Medical Society of the District of Columbia, at its annual meeting, elected the following officers: president, Dr. Wilfred M. Barton; vice-presidents, Drs. Walter A. Wells and Hanson T. A. Lemon; corresponding secretary, Dr. Thomas C. Smith; recording secretary, Dr. Henry C. Macatee; treasurer, Dr. Charles W. Franzoni (thirty-ninth term); librarian, Dr. Edwin L. Morgan, and censors, Drs. D. Olin Leach, Henry B. Deale, Francis R. Hagner, Joseph S. Wall and John F. Moran.

FLORIDA

State Laboratory.—A state laboratory is to be erected in Jacksonville for the state board of health.

Health Ordinance Violators Fined.—Two negroes of Jacksonville were each fined $2.00 by the justice of the municipal court for violating the health ordinance by not keeping their property clean.

Hospital Corps Organized.—A meeting of the medical officers of the National Guard of Florida was held in Jacksonville, January 25, to organize a field hospital for the state. Dr. Guy P. Holden, Jacksonville, First Lieutenant, M.C., N.G.F.A., is in command of the corps.

Society Meeting.—Orlando County Medical Society, at its annual meeting held in Orlando, elected Dr. William C. Persons, Orlando, president; Dr. Thomas A. Neal, Sanford, vice-president; Dr. Garton H. Edwards, Orlando, secretary, and Dr. Sylvan McElroy, Orlando, treasurer.

GEORGIA

Personal.—Dr. Faris C. Richards, Jasper, was thrown from his buggy, fracturing his right femur and dislocating his left shoulder.——The Medical College of Georgia, Augusta, has added to its faculty the following demonstrators; obstetrics, Drs. Andrew J. Kilpatrick and John M. Caldwell, and otology, Dr. James R. Littleton.——Dr. John T. Moncrief, chairman of the police commission of Columbus, has resigned.——Dr. Robert C. Swint, assistant on the medical staff of the State Sanitarium, Milledgeville, has resigned.

Election of Officers.—Clark County Medical Society, at its meeting held in Athens, elected the following officers: president, Dr. Dan H. Dupree; vice-president, Dr. Singleton S. Smith; secretary-treasurer, Dr. John Gerdine; censors, Drs. William A. Carlton, Millard F. Matthews and Allen C. Holliday; delegate to the state association, Dr. Henry M. Fullilove, and alternate, Dr. John C. McKinney, all of Athens.——At the annual meeting of the Fulton County Medical Association, held in Atlanta, the following officers were elected: president, Dr. Edgar G. Ballenger; vice-president, Dr. L. Benjamin Clarke; secretary, Dr. Richard R. Daly; treasurer, Dr. Arnold H. Lindorme and censor, Dr. Frederick G. Hodgson, all of Atlanta.——At the annual meeting of the Richmond County Medical Association held in Augusta, January 25, the following officers were elected: Dr. Charles W. Crane, president; Dr. G. A. Traylor, vice-president; Dr. James B. Wright, secretary-treasurer; Drs. Noel M. Moore and Thomas D. Coleman, censors; Dr. James R. Littleton, delegate to the state association and Dr. William R. Houston, alternate, all of Augusta.

ILLINOIS

Personal.—Dr. Charles C. Kost, Dixon, has been appointed district surgeon of the Illinois Central Railroad, vice Dr. Abraham L. Miller, resigned.——Dr. Christian H. Zoller, Granite City, has been appointed superintendent of the Granite City Lutheran Hospital.

The Last of the Physiomedical Colleges Changes Faith.—Last month at a meeting of the stockholders and trustees of the College of Medicine and Surgery, Chicago, the last of the physiomedical colleges, the corporate name was changed to the Chicago Eclectic Medical College. It is stated that the school will hereafter be conducted as an eclectic college.

Law-Breakers Caught.—Dr. J. A. Roy, Lewistown, against whom a judgment is said to have been secured some time ago for practicing medicine without a license, and against whom a fine of $100 was assessed, gave himself up to the sheriff, January 20, and will serve a sentence of twenty days in jail.——George Griffith, Strasburg, an itinerant medicine vender, who was sued by the state's attorney for peddling medicine without a license is said to have consented to settle the case without a trial on the imposition of a fine of $100 and costs and has promised to go out of business.

Hospital at Clinton.—The Dr. John Warner Hospital, Clinton, is almost ready for opening; the delay is due only to the failure of some of the equipment and furniture to arrive. On the first floor of the institution are the superintendent's room, nurses' rooms, kitchen, dining room, reception room and men's ward, which latter is to be furnished by the Illinois Central Railroad. On the second floor of the institution are most of the private rooms, the women's ward and children's ward. On the third floor the operating rooms, dressing rooms and sterilizing rooms will be located. The physicians of DeWitt County have decided to furnish the operating room of the hospital.

Chicago

Schools Named for Physicians.—Dr. Frank J. Jirka states that THE JOURNAL omitted from the list of physicians after whom Chicago public schools have been named, that of his father, the late Dr. Frank J. Jirka, who was for many years a member of the public school board of Chicago.

Personal.—Dr. David J. Davis, of the Memorial Institute for Infectious Diseases, has been appointed pathologist to St. Luke's Hospital.——Dr. Christian J. Hartung was struck by a street car, February 2, *and seriously injured.*——Dr. Strother J. Beeson has left for a trip to the West Indies and South America.

INDIANA

Illegal Practitioner Fined.—Dr. A. E. Uetz, Ellwood, charged with practicing medicine without a license, is said to have pleaded guilty, January 25, and to have been *fined* $25 and costs.

License Renewed.—The State Board of Examination and Registration, on petition of physicians of Allen County and a number of citizens, has renewed the license of Dr. McKendre Green, Pleasant Lake, which was revoked nearly three years ago.

Antituberculosis Hospital Open.—The first patients were received in Boehne Camp, near Evansville, January 11. The hospital, an open-air farm, completed through the energetic work of the antituberculosis society aided by the donation of Congressman Boehne, can now accommodate fourteen patients.

Metaphysical Healer Fined.—The Supreme Court, on January 25, confirmed the decision of the May circuit court, which assessed a fine against Mrs. Lyda Hazlett, Richmond, for prescribing medicine without a license. The suit was brought following the death of a 14-year-old girl in an institute, conducted by the defendant, known as the "Metaphysical Healing Home."

Verdict Against Practitioner.—By agreement of the contending parties a judgment of $1,500 damages in favor of Arman Rankin, a minor, is said to have been entered in the circuit court of Indianapolis, Dec. 30, 1910, against Dr. Robert O. McAlexander, in a suit brought on behalf of the plaintiff to recover damages for alleged unskilful setting of the bones in a fracture of the leg.

Personal.—Dr. J. Herbert Brewster, for three years head of the water laboratory of the State Board of Health, has resigned.——Dr. A. C. Lucas, Indianapolis, was struck by a street car January 25, but was not seriously injured.——Dr. C. D. Pettigrew, Logansport, whose license to practice was revoked recently by the State Board, was tried, January 30, *on the charge of practicing without a license, instituted by* the Cass County Medical Society, and, on the first ballot, was acquitted.

Gift to University.—Dr. Robert W. Long and wife, Indianapolis, have made a donation of $200,000 in real estate to the Medical Department of the State University. Dr. Long desires that the legislature provide sufficient funds for the maintenance of a hospital free to all citizens of the state, and connected with the medical department of the state university. His plans also include the selling of the present building of the medical college in Indianapolis and the erection of new and more commodious buildings on the land owned by the state. His idea, eventually, is to increase his donation to $500,000.

Elections.—At the annual meeting of the Indianapolis Medical Society, the following officers were elected: Dr. Albert C. Kimberlin, president; Dr. Norman E. Jobes, vice-president; Dr. Roscoe H. Ritter, secretary-treasurer; Drs. William F. Clevenger and Walter D. Hoskins, members of the judicial council; Drs. Harry E. Gabe, Thomas B. Eastman and Francis B. Wynn, delegates to the state medical association, and Drs. Charles A. Pfafflin, Thomas C. Kennedy and Mitchell O. DeVaney, alternates.——At the annual meeting of Vanderburg County Medical Society, held in Evansville, Dr. Charles Knapp was elected president; Dr. Porter H. Linthicam, vice-president; Dr. William R. Davidson, secretary (reelected), and Dr. Benjamin L. W. Floyd, censor, all of Evansville.——Tippecanoe County Medical Society, at its meeting in Lafayette, elected the following officers: Dr. Milton C. Wilson, president; Dr. George F. Keiper, vice-president; Dr. William M. Reser, secretary (reelected); Dr. Charles Hupe, treasurer and Dr. George F. Beasley, censor, all of Lafayette.——At the annual meeting of Madison County Medical Society, Dr. Joseph E. Hall of Alexandria, was elected president, and Dr. Etta Charles, Summitville, secretary-treasurer.

IOWA

New Hospitals.—The City Park Hospital Company of Mason City has reorganized and a lot has been purchased on which a building to cost $75,000 will be erected.——Dr. Clyde A. Noland, Ogden, has opened a hospital in that town with accommodation for five patients.

Society Meetings.—Blackhawk County Medical Society, at its annual meeting January 10, elected Dr. William G. Mullarky, Cedar Falls, president; Dr. John E. O'Keefe, Waterloo, vice-president; Dr. Carl C. Bickley, Waterloo, secretary (reelected); Dr. Will L. Hearst, Cedar Falls, treasurer, and Dr. Frank N. Mead, Cedar Falls, censor.——At the annual meeting of Scott County Medical Society held at Davenport, January 2, Dr. Albert W. Elmer was elected president; Dr. John C. Murphy, vice-president; Dr. John V. Littig, secretary-treasurer; Dr. Frederick Lambach, delegate to the state society, and Dr. George E. Decker, alternate, all of Davenport.——Page County physicians met in Coin, December 28, to reorganize the county medical association, and after some preliminary work adjourned to meet the following week at Blanchard.——The annual election of Lee County Medical Association resulted in the choice of Dr. Coral R. Armentrout, Keokuk, president; Dr. William C. Kasten, Fort Madison, vice-president, and Dr. Ernest G. Wollenweber, Keokuk, secretary-treasurer.——Fort Madison Medical Society, at its annual meeting elected Dr. John W. Philpott, president; Dr. Charles O. Wilkin, vice-president, and Dr. J. G. Rea, secretary-treasurer.——At the thirty-eighth annual meeting of the Marion County Medical Society, held in Knoxville, Dr. Clarence E. James, Durham, was elected president; Dr. Arthur M. Merritt, Pleasantville, vice-president; Dr. Corwin W. Cornell, Knoxville, secretary-treasurer, and Dr. J. M. Weiss, Knoxville, censor.

KENTUCKY

Health of Jefferson County.—The annual report of the Jefferson County Board of Health has just been published. It shows that though the population of the county has increased 25 per cent., the best available statistics show a decrease in the death-rate of 1 per cent. Among the causes assigned to the lessening of illness the board mentions the drainage of swamp lands; the improvement in water supply; the keeping of stagnant water from the side of the highways and the spreading of crude oil on the county roads. The number of cases of tuberculosis is greater than ever before. There is a noted decrease in typhoid fever since the filtration plant has been in operation, but many cases are still reported along the line of small streams which feed the wells and springs. There were only sixteen cases of diphtheria reported, with no fatality. There were fifty-one cases of scarlet fever with three deaths, and five cases of small-pox. The secretary urges the establishment of an abattoir as the public has practically no protection against diseased and carelessly handled meats. Much space is given in the report to the condition of the milk supply of Louisville.

LOUISIANA

Small-Pox on Steamer.—Small-pox has developed on board the United States Engineers' steamer, *Delatour*, in Bayou Teche. The patients have been placed on a house-boat and thorough preventive measures have been undertaken.

The Health Train.—Up to the first of the year, the health exhibit train sent out by the State Board of Health has visited twenty parishes and fifty-two towns and it is estimated that 5,600 people have visited the car and that 1,500 have attended the meetings and lectures on hygiene and sanitation. The train is expected to tour Mississippi after the work in Louisiana is finished.

Hospital News.—The ordinance recently passed which makes the new building for the insane at the New Orleans House of Detention a city hospital for mental diseases, provides that it shall be the privilege of any indigent person residing in Orleans parish to make formal application for admission to the hospital, and, if found mentally unsound, to receive the benefit of medical care and treatment in the institution. The new building will be ready this month.——The free clinic of the new Presbyterian Hospital, New Orleans, located at 730 Baronne Street, opened January 16.

Parish Society Elections.—At the annual meeting of the Avoyelles Parish Medical Society held in Mansura, January 6, the following officers were elected: president, Dr. Remy G. Ducote, Bordelonville; vice-president, Dr. William A. Quirk, Evergreen; secretary-treasurer, Dr. Merrick E. Saucier, Marksville, and delegate to the state medical society, Dr. Thomas A. Roy, Mansura.——Rapides Parish Medical Society at its annual meeting, January 2, held in Alexandria, elected the following officers: president, Dr. Richard F. Harrell, Alexandria; vice-presidents, Drs. Edward F. Luckett, Loyd, and John L. Wilson, Alexandria; and secretary-treasurer, Dr. James A. White, Alexandria.

Personal.—Dr. Hamilton P. Jones, Pure Food Commissioner of Louisiana for the last four years, has resigned.——The board of managers of Touro Infirmary, New Orleans, have made the following appointments: surgical department, Dr. Russell E. Stone; pediatric department, Dr. Ruffin T. Perkins; gynecologic department, Dr. Paul T. Talbot; eye, ear, nose and throat department, Dr. Emile S. Keitz.——The Lafayette Sanitarium Association has reelected the following directors: Drs. John E. Mouton, *Frederick R. Tolson*, Lambert O. Clark and Nathaniel P. Moss.——Drs. Alonzo Givens and Ruffin B. Paine have been elected members of the Mandeville Board of Health, and, at the first meeting of the board, January 17, Dr. Paine was elected president.——Dr. John Callan, New Orleans, has been elected a member of the board of managers of the Tulane Fund vice Rev. Beverly Warner, deceased.——Dr. W. E. Dillon, Many, has been elected president of the Sabine Parish Board of Health, vice Dr. Willie E. Tatum, Converse, resigned.——Dr. Joel A. Selby, Shreveport, was thrown from his buggy in a runaway accident recently, fracturing a leg.

NEBRASKA

Demonstrators' Association Elects.—Dr. Wightman, Omaha, has been appointed president of the Nebraska Demonstrators' Association, vice Dr. E. Arthur Carr, Lincoln; Dr. Charles W. McC. Poynter, Lincoln, secretary, and Dr. O. Olson, *Lincoln*, vice-president and treasurer.

Personal.—Dr. Malcolm Stewart, Tecumseh, has been appointed a member of the newly organized Johnson County Board of Health.——Dr. Mark W. Baxter has resigned the superintendency of the Nebraska State Hospital, Ingleside, and will locate in Hastings.——Dr. Charles S. Currie, Beatrice, has been appointed physician of Gage County.

Society Meetings.—At the annual meeting of the Johnson County Medical Society held in Tecumseh, January 19, Dr. Charles H. Davies, Tecumseh, was elected president; Dr. Nils P. Hanson, Elk Creek, vice-president; Dr. Albert P. Fitzsimmons, Tecumseh, secretary-treasurer, and Dr. George J. Rubelman, Tecumseh, censor.——The Republican Valley Medical Association, at its annual meeting held in Hastings, January 26, elected Dr. Llewellyn L. Jones, Hastings, president, and Dr. Robert S. Mitchell, Red Cloud, vice-president, and reelected Dr. James N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.——The Dawes County Medical Association at its meeting in Chadron, elected Dr. Benjamin F. Richards, Crawford, president; Dr. E. L. Vernon, Chadron, vice-president; Dr. George W. Deemer, Chadron, secretary, and Dr. James E. Hartwell, Crawford, delegate to the state association.——The Howard County Medical Association, at its annual meeting held in St. Paul, elected Dr. Peter M. Pedersen, Dannebrog, president and delegate to the state association; Dr. John F. Hart, Elba, vice-president, and Dr. Charles C. Paxton, St. Paul, secretary-treasurer.

NEW HAMPSHIRE

Registration of Tuberculosis.—The house of representatives has passed a bill providing for the registration of all cases of tuberculosis.

Bequest to Hospital.—By the will of the late Dr. George F. Wilber, Nashua, about $60,000 is bequeathed to the Nashua Emergency Hospital.

Public Drinking Cup Must Go.—The lower branch of the legislature concurring with the senate, January 25, passed a bill giving the State Board of Health authority to "restrict the use of drinking cups in public places."

Personal.—Dr. George W. McGregor, Littleton, is spending the winter in Aiken, S. C.——Dr. John M. Gile, Hanover, has been elected a member of the governor's counsel.——Dr. George A. Weaver, Warren, has been appointed a member of the local board of pension examiners of Plymouth.

Society Meetings.—At the seventh annual meeting of the Grafton County Medical Society held in Woodsville, Dr. William E. Lawrence, North Haverhill, was elected president; Dr. John Wheeler, Plymouth, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. Charles R. Gibson, Woodsville, delegate to the state medical society and Dr. Elmer H. Carleton, Hanover, censor.——The New Hampshire medical club at its fifteenth annual meeting in Hanover elected the following officers: president, Dr. John W. Staples, Franklin; vice-president, Dr. Clifton S. Abbott, Laconia, and secretary-treasurer, Dr. Frank E. Kittredge, Nashua.

NEW JERSEY

New Infirmary.—Princeton University is soon to have a larger and more complete infirmary. The endowment fund for the building amounting to about $100,000, has been raised by the Women's Auxiliary Society of Princeton.

Medical League Meeting.—The Newark Medical League held its annual banquet, January 26, at which 116 were present. Dr. William J. Robinson, New York City, read a paper on "The Improvement of the Human Race," Dr. David A. Kraker acted as toastmaster and the following officers were elected: president, Dr. Louis Weiss; vice-president, Dr. Edwin Steiner; secretary, Dr. Abraham Finkelstein, and Treasurer, Dr. Louis L. Davidson.

Election.—Orange County Medical Society held its annual meeting January 20, in the William Pierson Medical Laboratory, Orange. Dr. Richard D. Freeman, South Orange, was elected president; Dr. Levi W. Halsey, Montclair, vice-president; Dr. Henry A. Pulsford, South Orange, secretary; Dr. J. Minor Maghee, West Orange, treasurer; Dr. Charles W. Banks, East Orange, reporter, and Drs. Richard P. Francis and Richard C. Newton, Montclair, and Dr. William H. Lawrence, Summit, censors.

NEW YORK

Crippled Children.—The tenth annual report of the board of managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, states that out of eighty patients treated, thirty-three were discharged. There was a far larger number of applicants than could be accommodated, and plans for a new and more extensive hospital have been prepared and it is stated that work on the structure will be begun immediately.

Wins Test Case.—In the case of the Hempstead town board of health against Dr. A. Ferree Witmer, Freeport, charged with failure to record a certificate of birth within thirty-six hours, as provided by ordinance, the judge rendered a decision for the defendant on the grounds that the ordinance naming the fine was not specific. Dr. Witmer made this a test case on the grounds that the ordinance was too broad and also that the penalty provided was not less than $10 and not more than $25.

Proposed Legislative Measures.—A resolution asking for the appointment of a commission to investigate tuberculosis conditions in the state and to devise remedial legislation has been prepared for presentation to the legislature. Another resolution proposes the erection of a state hospital for the treatment of tuberculosis in the Adirondacks, through an amendment to the constitution authorizing the legislature to set apart an area of a thousand acres or less in the Adirondack State Park for hospital purposes.

To Check Insanity.—The annual report of the State Commission in Lunacy, recently transmitted to the legislature, states that the number of insane in the state on Sept. 30, 1910, was 32,658. The number in state hospitals was 31,606; in licensed private institutions, 1,052, and in Matteawan and Dannemora, institutions for the insane criminal, 1,161. The total number of patients received during the year was 7,063, a net increase of 1,119. The report states that addresses on the prevention of insanity will be made in the Academy of Medicine, New York City, and later in many parts of the state, to be followed by a series of public lectures illustrated by moving pictures depicting life of the insane in the modern hospital and the remedial measures employed. Pamphlets informing the public of the avoidable causes of insanity will be issued for distribution to high school and college students, church organizations and philanthropic associations throughout the state.

New York City

Personal.—Dr. Charles H. May has been appointed consulting ophthalmologist for the fourth division of Bellevue Hospital.——Dr. Charles L. Vaux, Central Islip, has been appointed second assistant physician at the State Hospital, in that place.

Bequests.—Among the many bequests mentioned in the will of the late Mrs. Emily H. Moir, are the following to hospitals: New York Eye and Ear Infirmary, $20,000; Lying-In Hospital, $10,000; Hospital for Scarlet Fever and Diphtheria, $10,000; Baby's Hospital of the City of New York, $10,000; Presbyterian Hospital, $20,000; Northern Dispensary, $5,000, and Nursery and Child's Hospital, $5,000.

Report of Beth Israel Hospital.—At the annual meeting of the Beth Israel Hospital Association the report showed that 4,754 persons had applied for treatment during the year of whom 1,317 were rejected for lack of room. Of the patients treated more than 94 per cent. were treated as charity cases. The report emphasizes the need of a larger building and efforts will be made to find a site for a new bulding. The total subscriptions to the building fund now amount to $188,609.

The Deaths of 1910.—During the year 76,742 deaths were recorded, equivalent to a death-rate of 15.98 per 1,000, a little lower than that of 1909, and the lowest rate ever on record in the city. If the average death-rate which had prevailed during the previous decade had continued during 1910, there would have been 13,076 more deaths in the latter year than were recorded. All the causes of death amenable to sanitary control show decreases. Most prominent among these may be named tuberculosis, 1,840; diarrheal diseases, 1,151; diphtheria, 608; typhoid fever, 258; whooping-cough, 167; measles, 165; malarial fever, 93; small-pox, 89, and scarlet fever, 32. Among other prominent death causes which showed decreases were: apoplexy, 1,974 (this is probably due to more accurate certification); pneumonia, 2,203; bronchitis, 850; nephritis, 1,317; accidents, 773, and suicide, 153. Those diseases showing increases were cancer, 230; organic heart disease, 93; cirrhosis of the liver, 25; appendicitis, 23, and homicide, 63.

Pasteurization and Grading of Milk.—The department of health, at its meeting, January 31, adopted resolutions relative to the pasteurization and grading of milk which provide that all milk and cream offered for sale in the city, except that used f cooking purposes, must be of the grade by the board of health as certified or guaranteed milk or must be pasteurized under the conditions prescribed by the board. Grade A, for infants and children, is to be sold in bottles, only. This includes certified milk, guaranteed milk or milk pasteurized under special regulations. Grade B, milk safe for adults, to be sold in bottles or drawn from containers, not dipped. This includes Grade A, and pasteurized milk produced under the regulations of the department. Grade C, milk suitable for cooking and baking purposes to be sold from bottles or from cans. This includes all milk complying with the general regulations of the department, but not complying with the regulations made for A and B. No one should use milk inferior to Grade A for feeding an infant or child. Every person purchasing milk for drinking purposes is entitled to receive milk not inferior to Grade B. The efforts of the department of health in the supervision of milk should be especially concentrated on Grades A and B.

Hospital News.—At the fifty-eighth annual meeting of the Mount Sinai Hospital Association it was reported that the deficit had been reduced to $10,803. Legacies and bequests received during the last year amounted to $73,762 and $52,000 was received for the establishment of beds. The hospital has taken the initiative in planning an association of children's clinics throughout the city, and Adolph Lewisohn has promised $130,000 additional, making $200,000 in all, for the erection of a larger building for the accommodation of the pathologic department.——At the annual meeting of the officers of Stony Wold Sanitarium, which cares for cases of incipient tuberculosis, it was reported that 144 new patients had been admitted during the year. More than two-thirds of the patients have been discharged as cured since the sanitarium opened and these have been followed and report that they are as well as when they left the institution. The sanitarium has a deficit for the last four years of $20,000.——Between $11,000 and $12,000, was realized from the performance of "Romeo and Juliet" at the Metropolitan Opera House for the benefit of the French Hospital.——The twenty-first German Charity Ball netted $10,000, which will go toward the support of ten different German charitable and philanthropic institutions.——The Norwegian Hospital of Brooklyn has received $15,000 from Jens Skougaard, formerly president and treasurer of the board of managers of this hospital. The money will be added to the endowment fund of the hospital which now amounts to $25,000.

TENNESSEE

Small-Pox at State Prison.—Seven cases of small-pox are reported at the state penitentiary, Nashville. All possible precautions are being taken to prevent the spread of the disease.

Personal.—Dr. Peter S. Hagar has been elected city prescriptionist of Nashville, vice Dr. John G. Buford, deceased. ——Dr. Cary Snoddy has been reelected Superintendent of Knoxville General Hospital; Dr. Samuel H. Hodge has been elected member of the visiting and consulting staff, and Dr. V. D. Holloway, pathologist.——Dr. Ambrose McCoy, Jackson, has been appointed a member of the State Board of Medical Examiners.

Society Elections.—The Chattanooga and Hamilton County Medical Society, at its annual meeting in Chattanooga, elected the following officers: president, Dr. James H. Atlee; vice-president, Dr. Frank T. Smith; secretary-treasurer, Dr. Hiller P. Larimore (reelected), and censor, Dr. Samuel I. Yarnell, all of Chattanooga.——Sumner County Medical Society has elected the following officers: president, Dr. William T. Allen, Gallatin; vice-president, Dr. Bruce S. Galbraith, and secretary-treasurer, Dr. Walter S. Dotson, Gallatin.——At the annual meeting of the Memphis and Shelby County Medical Society held in Memphis, Dr. W. Battle Malone was elected president; Dr. J. Wesley Price, vice-president and Dr. Buford N. Dunavant was reelected secretary, all of Memphis.

TEXAS

On Trial for Selling Diplomas.—Dr. J. W. Decker, dean of the Gate City Medical College, which now has its headquarters at Dallas, Texas, is reported to be on trial in the federal court of Dallas, on the charge of using the mails to defraud. Mr. J. N. Wilkerson, the attorney for the Texas State Board of Medical Examiners, is said to have succeeded in securing a medical diploma within thirty minutes after he made application for it.

Society Meetings.—The Matagorda County Medical Association, at its meeting in Bay City, January 16, elected Dr. Edward E. Scott, president; Dr. J. W. Reed, vice-president; Dr. James E. Simons, secretary, and Drs. Baxter Smith and Stephen A. Foote, delegates to the state association, all of Bay City.——At the annual meeting of the Galveston County Medical Society, held in Galveston, January 12, Dr. Howard R. Dudgeon was elected president; Dr. H. O. Sappington, vice-president; Dr. James Greenwood, Jr., secretary-treasurer, and Dr. Ashley W. Fly, delegate to the state medical association, and Dr. Henry C. Hayden, alternate, all of Galveston.——At the meeting of the Port Arthur Medical Society, January 9, Dr. L. F. Bland resigned as secretary and was succeeded by Dr. Pat Reed.——Lemar County Medical Society, at its annual meeting in Paris, January 7, elected the following officers: Dr. John B. Chapman, president, Dr. Andrew J. Rush, vice-president; Dr. James M. Hooks, secretary and delegate to the state association, all of Paris, and Drs. John D. McMilllan, Paris, L. B. Stephens, Brookston, and Marcellus A. Walker, Paris, censors.——At a recent meeting of the health officers of Texas in Houston, the Texas Tropical Disease Research Society was organized with about 125 members. The following officers were elected: president, Dr. William M. Brumby, San Antonio; vice-presidents, Dr. Charles A. R. Campbell, San Antonio, and Charles L. King, Whitesboro, and secretary-treasurer, Dr. E. H. Lancaster, Houston. ——At the annual meeting of the Central Texas Medical Association, held in Temple, January 16 and 17, Dr. Walter H. Allen, Marlin, was elected president, and Dr. Howard M. Lanham, Waco, secretary-treasurer.——The North Texas Medical Association, at its annual meeting held in Dallas, elected the following officers: president, Dr. Carey A. Gray, Bonham; vice-presidents, Drs. William G. Harris, Plano, and K. Herberden Beall, Fort Worth; secretary-treasurer, Dr. H. Leslie Moore, and Drs. John B. Smoot, Dallas, and Dr. S. D. Moore, Van Alstyne, judicial council.——At the annual meeting of the Seventh District Medical Society held in Austin, the following officers were elected: president, Dr. Thomas J. Bennett, Austin; secretary, Dr. Lewis B. Bibb, Austin, and censors, Drs. James H. White, Kile, and James W. McLaughlin and Robert M. Wickline, Austin.——Hunt County Medical Society has elected the following officers: president, Dr. Edwin P. Becton; vice-president, Dr. Thomas B. Spaulding; secretary-treasurer, Dr. John A. Bush, and censor, Dr. Milus L. Moody, all of Greenville.——At the annual meeting of the Bell County Medical Society, held in Temple, Dr. Ambrose B. Crain, Belton, was elected president; Dr. S. A. Watts, Pendleton, vice-president; Dr. Edward J. Burns, Temple, secretary-treasurer; Dr. Jacob M. Frazier, Belton, censor, and Dr. Milton P. McElhannon, Belton, alternate delegate to the state society.

GENERAL NEWS

Tri-State Physicians Meeting.—The thirteenth annual session of the Tri-State Medical Association of the Carolinas and Virginia will be held in Raleigh, February 22 and 23 under the presidency of Dr. Joseph A. White, Richmond, Va.

Tuberculosis Day.—April 30 has been set aside as Tuberculosis Day and will be observed in 200,000 churches in the country in a manner similar to that of Tuberculosis Sunday in 1910. The National Association for the Study and Prevention of Tuberculosis asks that meetings, at which the study of tuberculosis and its prevention can be discussed, be held on Sunday, April 30, or near that date, so that the whole matter can be discussed throughout the United States at as near the same time as possible.

The Golubinin and Sirotinin Festchrifts.—The issue of the *Medizinskoe Obozryenie*, just received (No. 20), is a special number of 163 pages in honor of the professor of materia medica at the university of Moscow, L. E. Golubinin, president of the Moscow Medical Society. The *Russkiy Vrach* of the same date is also a *Festnummer* in honor of V. Sirotinin, professor of internal diseases at St. Petersburg. Among the many articles, Tchernorutzki reports that he found the Mandelbaum reaction positive in 100 per cent. of over a hundred cases of typhoid fever, and regards it as a valuable simple means for rapid differentiation of typhoid. (The technic was described in The Journal, March 5, 1910, page 827.)

Alcohol Literature Given Libraries.—Mr. A. D. Ellis of East Syracuse, N. Y., a business man of some means, has recently sent to every medical library in the United States and Canada a copy of the book, "Alcohol, a Dangerous and Unnecessary Medicine," by Mrs. Martha M. Allen, superintendent of medical temperance for the National Woman's Christian Temperance Union. The book was reviewed in The Journal some months ago and recommended to the respectful consideration of physicians, and this fact led Mr. Ellis to think it would be a good thing to present the book to medical libraries. He was greatly gratified at receiving some very warm letters of thanks for the gift, and kindly commendations of the book. He is now considering sending a copy to all the nurses' training schools. The book is largely a compilation of the writings of successful physicians who use little or no alcoholic liquors in their practice.

Health Crusade.—Mrs. S. S. Crockett, chairman of the Health Department of the General Federation of Women's Clubs, in a New Year's message, asks that every club in the general federation and the forty-five state federations, during the first month of the new year, hold a war council of all departments or committees and discover what every section or part of every club throughout the country may contribute toward the nation-wide health campaign instructed by the last general federation at its meeting in Cincinnati. Mrs. Crockett also asks for four successive advances on health enemies all along the line through a series of short term campaigns as follows: February—"The Common Drinking Cup." March—"The Typhoid Fly." April—"Oral Hygiene," and May—"Social Hygiene." Special tuberculosis campaigning will also be continued. The campaign headquarters for two years are at 710 Belmont Avenue, Nashville, Tenn.

Joint Conference on Education and Legislation.—The seventh Annual Conference on Medical Education and Legislation, called by the Council on Medical Education and the Council on Health and Public Instruction of the American Medical Association, will be held at the Congress Hotel, Chicago, March 1-3, 1911. Speakers of national reputation will be present and an interesting session is expected. The first day will be given to addresses and reports on medical education; the second to a discussion of medical practice acts and the third day will be taken up by a conference on medical legislation. A program will be sent on application. Since two other educational agencies, namely, the Association of American Medical Colleges and the National Confederation of State Medical Examining and Licensing Boards are to hold their annual sessions in Chicago during the same week, an unusually large attendance of those interested in medical education and medical legislation is expected.

Warning Against Easy-Money Swindlers.—Several correspondents have written from Iowa recently regarding the Medical and Surgical Exchange Bureau, 1315 Capitol Avenue, Des Moines, Iowa, stating that an individual, calling himself A. W. Orris, has called on them alleging to represent the above bureau, and has offered to take their old medical books and give new books in exchange. On going over the list, the balance is always in favor of the agent, who requests and obtains a deposit, and this is stated to be the last heard of the agent. On investigation, they found that no such corporation or individual lived at the address given in Des Moines or had had an office at that address. Orris is said to be a man of about 60, with a black mustache, about 5 feet 10 inches in height, weighing about 180 pounds. He is said to be rather nervous and hurried in his manner, but to have good knowledge of medical books, and to carry with him a number of medical book catalogues.——Another man, alleged to be a swindler, is reported from the City of Mexico. He presents alleged letters of introduction and pretends that he is an Odd Fellow and an Elk. He calls himself F. August Harbers, is a large, fair man, of about 35 years of age. Our correspondent does not state in what way he and others were victimized—perhaps they loaned money to him. Swindlers of various sorts are operating all over the country, and will continue to do so as long as they find it possible to succeed without capture.

LONDON LETTER

(*From Our Regular Correspondent*)

London, Jan. 28, 1911.

Great Fall in Infant Mortality

The returns for 1910 show the unprecedentedly low figure of 106 deaths, of infants under one year, per 1,000 births. The great improvement which has been made is shown by the fact that the figure in 1901 was 151. The previous lowest figures were 109 in 1909, and 118 in 1907. In London, the record is even more startling, the infant death-rate in 1910 being only 102, as compared with 148 in 1901; while in the part of England and Wales outside the 213 great towns the rate in 1910 was only 96. The importance of these figures may be gathered from the fact that had the infant death-rate in 1910 been as high as in 1904, 151,000 more deaths would have occurred. This result has been due to a number of factors. Cool summers always mean a low infant mortality, in consequence of a great diminution in summer diarrhea. But similarly cool summers have occurred in past years with no such low infant mortality. The principal cause is the great attention which has been paid to infant hygiene in the last few years. This dates from the Conferences on Infant Mortality, which were addressed by Mr. John Burns, the president of the local government board, in which he urged the sanitary authorities to "concentrate on the mother" and to secure for infants better conditions of housing and a more favorable environment. During these years, the Notification of Births Act (by which local health authorities can render compulsory the notification of births) has been adopted in the districts most needing its work. Following the notification is the health visitor who gives the mother any necessary advice. The subject of infant hygiene has become increasingly popular.

Prevention of Sleeping-Sickness

A conference, convened by the British government, is now being held daily at the foreign office, as a result of representations made of the danger of spreading sleeping-sickness by the construction of the Rhodesia-Katanga railway which runs beyond the Congo frontier. The delegates include M. Melot, representing the Belgium government, and Dr. Bagshawe of the Sleeping-Sickness Bureau. The conference recommends that in the case of new railway extensions the route of the lines should be inspected for the *Glossina palpalis*, that maps of the fly area should be prepared, that railways should cross the fly belt at the narrowest points and not follow them, that there should be no station, building, or stopping place in the area, and that laborers on the line should be recruited under such conditions as to avoid infection. At a meeting of the Royal Society reports were received from Col. Sir David Bruce, director of the society's commission for the investigation of sleeping-sickness at Uganda, describing the results of experiments to ascertain if the antelope and domestic fowl of Uuganda act as reservoirs for the trypanosome of sleeping-sickness.

The tsetse flies around the northern shores of the Lake Victoria Nyanza still retain their infectivity for sleeping-sickness in spite of the fact that the native population was removed from the lake shore three years ago. A series of experiments was therefore carried out to ascertain if the antelopes, which are common on the uninhabited shores of the lake are capable of acting as hosts of the parasite of sleeping-sickness. Eleven antelopes of the waterbuck, bushbuck and redbuck species were obtained from a district where tsetse flies and sleeping-sickness *do not* exist. Blood from these animals was first inoculated into monkeys to ascertain if they were naturally infected with trypanosomes. They proved to be healthy in this respect. Tsetse flies known to be infected with the trypanosome were then fed on these antelopes. After about eight days the blood of the antelopes was inoculated into susceptible animals with the results that the latter became infected with trypanosomes in every instance. In eight out of the eleven antelopes the trypanosome appeared in the blood for a few days only (seven to twelve days) after they had been bitten by infected flies. Flies that had been hatched out in the laboratory and had never fed before, were fed on the infected antelopes and subsequently on monkeys. After an interval of about thirty days (required for the development of trypanosomes within the fly) monkeys were infected by the flies in sixteen out of twenty-four experiments, but the animals remained in perfect health. No wild antelope inhabiting the lake shore has yet been found naturally infected. With regard to birds, there is evidence that tsetse flies feed on the blood of birds as well as mammals on the lake shores. But the conclusion from twenty-one experiments with domestic fowls was that these do not act as a reservoir for sleeping-sickness.

Physician vs. Pharmacist

The pharmacists have not been long in preparing a counter stroke to the report of the government commission on unqualified practice. As stated in a previous letter to The Journal, pharmacists were severely criticized for usurping the functions of physicians and prescribing for patients. The parliamentary committee of the Pharmaceutical Society has passed the following resolution which has been adopted by the general council of the society: "That having regard for the grave dangers attending the dispensing of medicine and the handling of poisons by unqualified persons, and to the fact that at the present time the precautionary measures imposed by statute on chemists and druggists do not apply in the surgeries and dispensaries of medical practitioners, the privy council be urged to authorize an investigation into the conditions under which the storage, compounding and dispensing of medicines, and their distribution. are carried on in various surgeries, dispensaries and similar establishments in Great Britain." This resolution refers to the fact that physicians are subject to no regulations whatever in the compounding and dispensing as are pharmacists. Thus the shops of the latter are periodically inspected and their drugs and preparations must be up to the standard of the Pharmacopeia. Pharmacists complain that the physician's training in pharmacy is confined to a three-months' course and when he starts practicing he is allowed to handle the deadliest poisons free from the supervision of inspectors. The ideal of the pharmacists is that all medicines should be dispensed by a registered pharmacist, or under his supervision, but in the meantime they will agitate for the inspection of physicians' dispensaries. The contention of the pharmacists that physicians are not competent for their own dispensing is not correct. A physician who dispenses confines himself to a limited number of drugs and preparations for which he has a preference. At one time physicians made their own pills; now they almost always obtain them ready made. Cases of poisoning from mistakes in dispensing are exceedingly rare and cannot be said to occur more frequently in physicians' dispensaries than in pharmacists' shops. However, some physicians are in favor of confining dispensing to pharmacists. They consider this more in keeping with the dignity of the profession and desirable on other grounds, such as giving the physician more time for his proper work. This is the practice in the higher ranks of the profession. Indeed a man with the rank of M.R.C.P. (Member of the College of Physicians of London, a consultant's qualification) is not allowed to dispense medicines. But this ideal is unattainable by the rank and file of the profession. The fees are too small to allow the pharmacist's profit to be paid out of them. Sometimes the fee for advice and medicine at the physician's office runs as low as $0.25, or even less, a sum lower than what may be charged by a pharmacist for a mixture.

Dentist Found Guilty of Manslaughter of a Patient Who Bled to Death After Extraction of Teeth

In a previous letter to the Journal the case was reported of a girl, aged 19, a school teacher who on June 18 had some teeth extracted at Bantry, Ireland, by a traveling unqualified dentist. For some days before, she had had some bleeding from the gums and a purpuric eruption on the face, hands and other parts. The dentist injected cocain into the gums and extracted four front teeth from the upper jaw and two from the lower. The girl left the room bleeding profusely from the mouth and went to a neighboring house, where she fainted. The dentist was summoned and tried to stop the hemorrhage with perchlorid of iron, but failed. A physician was then called but in spite of all that he could do the bleeding continued and the girl died at the end of forty-eight hours. The dentist has now been indicted for manslaughter. The judge, in summing up, said that it was a very serious thing that a man who was not qualified should practice dentistry, though the law permitted it. If the prisoner had been guilty of a mere error of judgment, although he was unqualified, the jury should acquit him; but if they thought that under the circumstances he should have sent for a doctor and that the marks on the face should have shown him, if he knew anything, that this girl was suffering from purpura, they would be justified in coming to the conclusion that there was criminal misconduct which arose from gross ignorance. The jury found the prisoner guilty of manslaughter, but recommended him to mercy on the grounds of his ignorance and considered that the dental firm who employed him was culpable. The judge in passing sentence said that, having regard to all the circumstances, he did not think he should send a particular individual to jail who was the mere instrument of a company; he would allow him out on a personal recognizance of $500 to come up for judgment when called on.

Carbon Monoxid Poisoning from a Benzine Explosive Engine

The explosive engine which has recently come so much into vogue in the motor-car, motor boat, and aeroplane, has proved a new source of carbon monoxid poisoning, as the following case, which is reported from New Zealand, shows: Five men went out fishing on a motor launch propelled by a six-horsepower benzine engine. One was a strong young fellow aged 20, in good health, who crawled forward past the engine and lay down in the cabin about 8 p. m. Soon afterward he was heard to groan, but lay quiet and soon thereafter was thought to be asleep. He could not be wakened at about 11:30 when the boat reached the shore. About midnight he was seen by a physician, Dr. Barclay. His face looked of a natural color, so that at the first glance the doctor thought he was alive. The body was still warm but there was no sign of heart's action or respiration. The prolonged use of artificial respiration and hypodermic injection of strychnin were without effect. Next day a necropsy was made. The lips were pinkish red. The blood was of the color of vermilion. There were no signs of organic disease. A specimen of the blood was found to contain carbon monoxid to the extent of 50 per cent. of saturation. As there was no fire on the boat the only possible source of poisoning was the benzine engine. Further inquiry showed that men attending these engines in the cabins of launches often have toxic symptoms—headache and dizziness. As precautions against such fatalities Dr. Barclay suggests the following rules for motor boats: 1. Adjust the supply of benzine and air as accurately as possible to secure complete combustion. 2. See that cylinder fittings are not leaking unduly. 3. Ensure as much ventilation as possible in the engine room.

New Regulations for Health Officers

The health officer, who was originally only a physician who combined public-health work with his ordinary practice, has become more and more differentiated into a special class. The government has issued new regulations for health officers, which further increase this change. In a memorandum just issued, the Local Government Board states that while excellent work has been done by many health officers who are also in private practice, experience has shown that it is desirable, wherever practicable, that the health officers should not be so engaged. The reason is that often they have to offend their clients in carrying out their public duties. In all the large towns and districts the health officer is now a specialist who devotes his entire time to public health, but in the smaller districts the work is still combined with private practice. The board now advises these districts to obtain the services of a man who is not engaged in private practice by combining with neighboring districts or by combination of other public appointments with that of public health. The public offices which the health officer may be allowed to hold are school medical officer, police surgeon, public vaccinator, district medical officer, medical officer of the workhouse, superintendent of the isolation hospital and factory surgeon. The memorandum proceeds to urge that the salary offered to the health officer who devotes his whole time to public health work should be sufficient to attract men with good qualifications.

Complete Traumatic Avulsion of the Heart

The following remarkable case has been observed at St. Mary's Hospital: A boy, aged 6 years, was taken to the hospital dead from severe injuries inflicted by a motor omnibus. Though the external injuries were slight, consisting of bruises and abrasions and slight bleeding from the nose, the internal injuries were severe. They included depressed fracture of the symphysis pubis and left innominate bone and lacerated wounds of the liver, spleen and small intestine. All the ribs on the left side except the eleventh and twelfth were fractured mostly in two places, before and behind; the right second rib was fractured. The right bronchus was severed and the pedicle of the lung nearly divided, but the lungs themselves were uninjured. The right pleural cavity contained blood and in its lower part the heart lay completely detached. The pericardium had been ruptured vertically on the right side, and through the aperture the heart had evidently escaped. There was a fracture of the spine at the level of the third dorsal vertebra. The upper end of the descending aorta and the esophagus were ruptured. In spite of the terrible internal injuries there were no marks of violence over the thorax.

Model Rules for Nurses

Sometimes nurses give annoyance to medical men by usurping the functions of the physician, in criticizing treatment and in other ways. The following model rules for inclusion in the rules of nursing associations have been drawn up by the British Medical Association: 1. The nurse shall in every case carry out the directions of the physician in attendance. 2. When requested i[illegible] visit and render first aid without [illegible] of the physician. 3. If in her opinion the attendance of a physician is necessary, she must insist that one be sent for, and if for any reason his services are not immediately available, she must, if the case be still urgent, remain with the patient and do her best until the physician arrives or the emergency is over. Should the advice to call a doctor be not acted on, the nurse must at once leave and report the case to her secretary, and must not attend again except in case of fresh emergency. 4. Should any further attendance be requested by the patient when the emergency is over, the nurse must explain that the physician will decide whether this is necessary. 5. No attendance after a first visit shall be given by a nurse unless she has informed a physician and received his instructions. 6. Apart from her duties as a certified midwife a nurse must on no account prescribe or administer on her own responsibility such drugs as should be prescribed only by a physician. 7. No midwife in the employment of a nursing association shall accept an engagement without first asking the patient to state, and herself registering the name, of the physician to be called should any emergency arise. 8. A nurse shall in no case attempt to influence a patient in the choice of a physician or of an institution.

Surgeon Sued and Acquitted for Purposely Leaving a Swab in the Intestine

A well-known surgeon, Mr. Charles Ryall, has been sued for leaving a swab in the intestine and the case has caused considerable interest in the profession. Mr. Ryall operated on a woman for fibroid tumor on Nov. 5, 1908; on opening the abdomen he found extensive adhesions and the operation proved severe and dangerous. In separating the adhesions, a tear 4 inches long occurred in the intestine. The adhesions prevented the bowel being brought out of the abdomen and it was necesssary to take instant steps to stop possible leakage. He did the quickest thing—put a swab into the bowel, sutured the intestine and completed the operation without removing the swab, as he considered that this would have been dangerous. After the operation, he told the head nurse that there was a swab in the bowel and asked her to watch for its passage by rectum and she reported later that this had taken place. A few days after the operation, the patient suffered from pain which her physician attributed to flatulence. She recovered from the operation but the pain continued and in March, 1909, a "lump" appeared in her right side. On October 15, she passed a large swab which was hard and stiff.

For the plaintiff, Mr. Russell Howard, surgeon to the London Hospital, gave evidence. He stated that he had performed many abdominal operations but had never left a swab in the body which could not be removed within twenty-four hours. He had never heard of a swab being left in the body in the manner described. In cross examination, he admitted that if the tear in the intestine was 4 inches long it was proper to pack the intestine with a swab, but it should have been placed with a tape outside to call attention to the fact that it was there and enable it to be pulled out. For the defendant, Sir Alfred Fripp, Surgeon to Guy's Hospital, stated that it was a common practice to leave things in the bowel and that a Murphy button had been retained for years. Mr. Miles, surgeon to the Cancer Hospital, and Mr. J. E. Lane, senior surgeon to St. Mary's Hospital, gave similar evidence. The latter said that the operation was extraordinarily difficult and that the plaintiff had made a marvelous recovery. He considered that in using the swab and suturing over it Mr. Ryall showed great resource. The nurse stated that she was directed by Mr.

Ryall to watch for the passage of the swab. After the operation she gave the patient an enema which was followed by a satisfactory result. As the bowels were cleared before the operation and as no solid food had been given after it she thought the swab had come away and reported accordingly. In charging the jury, the judge said that up to the moment of bringing the action—and this was an important point in the plaintiff's case—the plaintiff said that no one could be found to say that any surgeon would adopt such a method as the defendant appeared to have done. It was quite true that, with one exception, no surgeon except the defendant had ever used a swab in the manner described, but the eminent surgeons who were called as witnesses were all of the opinion that this operation was very difficult and that the patient was fortunate to be alive. Mr. Lane had said that the defendant had shown great resource in using the swab as he did. The instant stopping of the torn bowel was vital. The jury returned a verdict for the defendant.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 20, 1911.

How the Fact of Death is Established in France

The Académie des sciences of Paris having recently awarded the Dusgate prize to Dr. S. Icard of Marseilles, for his work entitled "The Verification of Death in Hospitals in France and Abroad and the Necessity of Early Necropsies," public opinion has been much interested to learn that the verification of deaths in hospitals is not always surrounded by sufficient guarantee. As usual in such cases, the political journals have greatly exaggerated the facts and have played on the feeling always aroused by the question of burial of the living. It is not in hospitals alone, however, that the verification of death leaves much to be desired. There is a regrettable lacuna in the French law on this point. According to the *Code civil*, the death should be reported to a government official by two persons, if possible by the two nearest relatives of the deceased and verified by the official. In other terms, burial may take place without any medical examination, except in cases in which the cause of death is suspected, in which the official should be assisted by a physician. In practice, no doubt, medical verification is seldom omitted. Thus in Paris, the fact of death has been established, for a long time, by physicians charged with this function and designated under the name of *médecins de l'état civil*. In 1866, a circular of the minister of the interior prescribed that the mayors of all the communes should delegate one or several physicians for this duty; but this circular was observed only in some large cities. In the country and in the small towns there is no organized means for verifying deaths. Accordingly, the interest aroused by the signs of real death to which Dr. Icard has drawn attention may be understood. One of these signs based on the hydrogen sulphid reaction may easily be observed, even by a non-medical person. Taking advantage of the fact that organic decomposition appears rapidly in the lungs, Dr. Icard takes a small strip of paper on which some characters have been traced invisibly with a colorless neutral solution of acetate of lead in distilled water. The strip of paper is placed in one of the nostrils of the body under observation. If at the end of twenty-four hours, the characters appear traced in black, death is certain, since pulmonary putrefaction has begun, disengaging the hydrogen sulphid which, acting on the neutral acetate, forms a black lead sulphid.

By the side of this non-scientific sign, which is manifested only at the end of twenty-four hours, Dr. Icard places a scientific sign, which gives immediate results. This is the fluorescin test, which consists in injecting into the veins or into the muscular masses an aqueous solution of fluorescin, so as to show the persistence or the cessation of the circulation of the blood. When an hour, or at most, two hours, after the injection, no characteristic coloration from the absorption of fluorescin is observed, such as intense yellowness of the skin and the mucosa, or green coloring of the eyes, it may be affirmed without doubt that death has taken place.

Illegal Practice of Medicine

In a previous letter (The Journal, Aug. 7, 1909, p. 468) I mentioned the case of the zouave Jacob, who, prosecuted for illegal practice of medicine, had been acquitted, the lower court sustaining the defendant's plea that he was merely a faithful intermediary between the spirits and the patients. This was, said the court, curing by suggestion but not practicing medicine. The court of appeal has reversed the first decision and condemned Jacob to pay a fine of $20 (100 francs) and $40 damages to the Syndicat des médecins de la Seine, which was civil party. The grounds of the decision were as follows: According to the terms of the law of Nov. 30, 1892, illegal practice of medicine consists in the habitual participation, by a person without the diploma of doctor of medicine, in the treatment of diseases (urgent cases excepted), the word "treatment" including every act or counsel tending to the cure or amelioration of a state of malaise or of disease, and not merely based on knowledge of the disease treated.

Professional Responsibility and the Organization of Physicians of the Seine

In view of the recent condemnation of Dr. Bazy to pay $1,000 damages (The Journal, Jan. 14, 1911, p. 130), the administrative council of the Syndicat des médecins de la Seine, representing 1,700 physicians of Paris and the suburbs, passed a resolution that whereas, surgeons under the most critical circumstances need to decide rapidly and sometimes boldly, the indecision and timidity of a surgeon being always injurious to the patient, the surgeon ought to be held responsible only for actual gross fault, clearly established.

Reform of the Internship of the Hospitals of Paris

The committee of the Association des Internes et anciens Internes des Hôpitaux de Paris, has just adopted a resolution that the interns of the hospital of a provincial city which is the site of a Faculté de médecine, when they desire to enter the *concours* of the Paris hospitals, should not be obliged first to pass through the externship, as has been the practice up to the present. The adoption of this resolution would relieve the Faculté de Paris, for many provincial students, instead of coming first to Paris, would thus be able to take their first year of study in the province, which would be better for them, the material for anatomy being insufficient in Paris for the number of pupils.

Another resolution passed by this same committee is in line with a resolution passed by the Congrès de l'Internat français (The Journal, June 25, 1910, p. 2131), which is to the effect that interns on duty should at their request be allowed to take an entire consecutive year for scientific travel abroad.

Personal

M. Mirman, director of hygiene and public charities, department of the interior, was seriously wounded in the thigh by an insane man, who fired two revolver shots in the chamber of deputies, intending to assassinate M. Briand, the prime minister.

Advertising by Midwives

In the course of a study on abortion from the medicosocial point of view, Dr. Jacques Bertillon, *chef des travaux* of the municipal statistics of the city of Paris, has shown that fifty midwives advertise continually in the Paris papers. By collecting the advertisements from these papers, he has been able to make an exact estimate of the sum so expended annually by each of these midwives. One spends $2,665 (13,325 francs); another spends $1,611 (8,055 francs); nearly twenty spend on an average from $400 to $1,000 and the thirty others spend on an average between $200 and $400. These sums indicate that it is impossible that these midwives should practice their profession ethically and legally. Dr. Bertillon, therefore, believes that it is necessary to have the profession of midwifery put under inspection and to make a report of every miscarriage obligatory.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 12, 1911.

Poisoning by Butterine

As I reported to you in a former letter, a number of cases of poisoning were occasioned in Altona, Hamburg, Berlin and other cities by the use of a brand of oleomargarine manufactured by an Altona firm. Investigations undertaken in the institute for infectious diseases in Berlin have shown that dogs fed with the butterine sickened half an hour after eating, with great restlessness and vomiting. Several of the animals nearly died and one did so, twenty hours after the feeding. The necropsy of this animal showed marked reddening and swelling of the mucous membrane of the stomach and upper part of the duodenum. Investigations made under the direction of Professor Dunbar in the municipal institute at Hamburg, gave the same results, and he was able to reach a decisive opinion as to the nature of the poison. As is well known, margarine was originally prepared by adding to minced beef tallow the stomach of the sheep or the pig in order to digest the tissue particles adhering to the tallow. The tallow prepared in this way was separated by pressure from the solid stearin-containing constituents, and the liquid oleomargarine was mixed finally with milk and macerated cow's udder and churned to butter. As a result of the favorable reception of oleomargarine which was first produced in Germany in 1876, the production has increased with us to the extent that the annual output is estimated at 200,000,000 pounds, having a value of about $25,000,000 (100,000,000 marks). In consequence of the competition between various manufacturers, there has been an attempt gradually to cheapen the method of manufacture and this has been accomplished, mainly by the substitution of vegetable oils for the animal fat. Among the latter, cotton-seed oil, poppy oil, peanut oil, corn oil, sunflower oil and cocoanut oil have been used. Many factories have also used other oils, the origin of which was not given and the preparation of which was not always unobjectionable. In fact it has been shown that the cases of poisoning referred to must be attributed to the use of such an oil. Professor Dunbar found that the foreign oil was Maratti fat which is in consistence, color and smell identical with oil of cardamom. It was obtained from the seeds of the hydnocarpus, a large tree common in India. The Maratti fat is sold in England as Moratti oil and is derived from a species of hydnocarpus closely allied to the *Hydnocarpus kurzii* from which chaulmoogra oil is derived. Hydnocarpus seed oil has an appearance and composition very similar to that of chaulmoogra. One of the varieties from which the oil is derived is *Hydnocarpus anthelmintica*, and it is used as a vermifuge. Moratti oil is known commercially in Germany under the name *Kardamonöl* (not the same as oil of cardamom). The poisonous butterine consisted of more than 50 per cent. Maratti fat. Professor Dunbar demands that margarine factories shall be placed under official inspection, for the present cases of poisoning show that severe injury may result from its manufacture and that there is no assurance that the factories at any time may not use in the production of oleomargarine some oil even more injurious than the Maratti.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 19, 1911.

The Jubilee Hospital

The municipality of Vienna decided to erect a special large hospital to commemorate the jubilee of the Emperor of Austria two years ago, and a fund of over $2,000,000 was granted for the purpose. The hospital is now finished and will be opened shortly. A committee consisting of medical men, experts in hospital building and other persons interested in the institution, was shown through the hospital a few days ago. The four leading ideas which the municipality wanted to bring into existence were: The hospital must not contain a clinic (for teaching), or any ward for infectious diseases; without undue centralization, the pavilion system should be adopted as little as possible, while large garden tracts were especially desirable; the outfit and the "running" of the hospital must be entirely up to date in scientific and technical respects; it should be also specially fitted for postgraduate work of the municipal physicians. The area at disposal was 152,000 square meters, or 2,710,000 square feet, of which only the space of 162,000 square feet is covered by buildings. The rest has been turned into parks, streets and pathways. For instance, one of the courtyards (or rather park yards) measures some 270,000 square feet. The hospital itself contains eight wards: the medical ward with 236 beds; a tuberculosis ward with 248 beds; one for surgical cases, with 118 beds; a gynecologic ward, with 48 beds; a large urologic ward, with 126 beds, which will be the largest ward of its kind on the Continent; a skin department, with 136 beds; 50 beds for eye cases and 18 for nose-and-throat cases. These 980 beds are accommodated in three huge buildings. There is a natural difference of ground level of 162 feet in this area, so that several institutions could be located, so to say, underground; thus, for instance, the *x*-ray department is so situated and the department of sterilization of bed-clothes and utensils. One of the most interesting features is the central bathing establishment. It contains all instruments necessary for hydrotherapeutic, electrotherapeutic, physiotherapeutic, phototherapeutic and mechanotherapeutic procedures, including a high-frequency current outfit. The tuberculosis ward faces south and is filled with open-air bedrooms and balconies. One wing of the central pavilion serves as home for the nurses (sisters). There will be altogether 110 sisters, who will have twenty-eight rooms for themselves. The hospital contains the following rooms: thirty-six ward-rooms with double daylight illumination, containing from eighteen to twenty-six beds; six rooms for patients, with from six to twelve beds with single daylight illumination (only windows); fifty-four rooms for patients, with one or two beds; thirteen out-patient halls; twelve rooms for minor surgery and out-patient treatment; eighteen laboratories; seventeen bathrooms, besides the central bath; twenty-two kitchens and as many washing rooms; sixteen rooms for the medical staff, and besides, the necessary rooms for the chemists, the post-mortem department, the managing clerks, the receiving office, etc. Everywhere special care is taken to make the patients feel at home; therefore, all clinical experiments will be excluded; this has been one of the objections to the plan on the part of medical men. Apart from the large park where patients will be encouraged to spend as much of their time as possible, the supply of air per patient, filtered and warmed fresh, has been calculated with 40 cubic meters, or 1,200 cubic feet in the rooms, and the diet will be controlled by a committee of the local magistrates, to insure its good quality and taste.

Congress of Stomatologists in Graz Condemns Proposed Anti-Medical Legislation

The Austrian stomatologists are at present engaged in an earnest fight against certain attempts to permit medical practice by non-medical men. The government is pressed by a certain group of politicians to permit the technical dentists to practice the whole of stomatology without university examination. Protests by all medical corporations have been organized (The Journal, Nov. 26, 1910, p. 1906) and a lively campaign is going on just now. The Austrian stomatologists, at a recent meeting in Graz, demanded the erection of special dental colleges and the establishment of dental clinics in schools. The congress was of the opinion that the handing over of this important branch of surgical and prophylactic medicine to non-medical men, as threatened by the "dentists' act," meant "a permanent danger to the national welfare and spelled diminished resistance to outward dangers."

Miscellany

ADVERTISING SALVARSAN TO THE PUBLIC

The Truth About 606, the New Treatment for Syphilis, Discovered by Ehrlich and Hata

Ever since the discovery of salvarsan, popularly known as "606," The Journal has advised caution in the use of this powerful drug. The wide-spread prevalence of syphilis, and the speedy and wonderful results which this new remedy was said to have produced, at once aroused wide popular interest. Inquiries were made everywhere of physicians who were no less interested and sought reliable information concerning it. Its discoverer was fairly deluged with letters and telegrams asking for information and even demanding supplies of the drug. The medical journals at home and abroad, as well as the daily press, contained glowing accounts of its marvelous effects, some of the stories in the newspapers being of the most sensational sort. The discoverer of the drug did not allow it to be placed on the market for over a year after its discovery, but supplied it to a few selected physicians, so that it might be used under favorable conditions. It was administered to a large number of patients who consented to its use, in order that the exact indications and results might be determined. Its use in Europe was limited to a few large hospitals. A supply was sent to the Rockefeller Institute in this country and was given out to a selected list of men, in order that its value might be carefully tested. Dr. Ehrlich insisted that it must be used in at least ten thousand cases and the results reported to him before he would allow the drug to be sold. He pointed out that it was a most powerful drug and, if used in any but suitable cases, might do great harm.

In the light of our present knowledge, the drug seems to having a striking effect, destroying the living organism which causes syphilis, and healing—temporarily at least—superficial lesions on the skin and mucous membrane of the mouth and throat in a few days. Such results caused the physicians who were working with the drug and those who saw the cases to become over-enthusiastic in regard to it. Exaggerated statements began to appear in the medical journals; the newspapers, seizing on these reports, and not understanding either the limitations or the dangers of the remedy, at once began making the most sensational announcements concerning it, asserting that one dose of this wonderful discovery would cure a disease which has been one of the scourges of humanity for centuries. Public interest in this new remedy has only been equaled by that aroused by Koch's tuberculin twenty-five years ago.

But it is already evident that the first claims made for salvarsan must be modified. It is also evident that when used carelessly or by incompetent persons it is not only disappointing in its results, but actually dangerous.

In an editorial last year, THE JOURNAL said: "It is not only possible, but probable, that the enthusiastic claims which some of the users of this new remedy are making for it will, in the light of future developments, be greatly modified." This prediction has already been verified. It has been found, for instance, that many relapses occur after apparent cures and that ill effects have been produced by it in cases which were not properly selected or in which the drug was not used with proper precaution. It must not be forgotten that salvarsan is a preparation of arsenic and must be used with great caution. Like most arsenic preparations its use may be followed by serious results; for instance, it may have a disastrous effect on the eyes. It has also been found that its therapeutic value is more limited than was at first supposed. It has no beneficial effect in locomotor ataxia, or in general paralysis of the insane, or softening of the brain, as it is popularly called, although the most enthusiastic claims for the cure of these troubles were at first made.

But the most deplorable result of the publicity regarding this remedy is its exploitation by quacks. As might be expected, a remedy which excited such public interest, and which promised such marvelous results at once stimulated the cupidity of the quack and the charlatan. The *Bulletin of Pharmacy* says, "The discovery of Ehrlich's new remedy for syphilis had hardly been announced when the medical charlatans of New York City began advertising treatment with '606.' Of all the brazen quackery, this was the worst." Salvarsan was not then on the market and could not be obtained generally, even by physicians, until about the first of the present year. But this was a mere trifle to the quacks, who prey on the misfortunes of credulous humanity. To them it afforded a golden opportunity, and they immediately embraced it. Newspapers have contained such advertisements: "606, Prof. Dr. P. Ehrlich's Cure for Blood Poison. Now on Sale. All Symptoms Removed in 2 Days. One Dose Cures. Remember, All Symptoms Disappear in two Days. One dose cures permanently. Salvarsan can be taken in the privacy of the home. For thirty dollars the '606 Laboratories' will ship in plain unmarked package the necessary dose with simple directions." Such false and misleading statements printed with pseudo-scientific matter bringing in the names of Ehrlich, Pasteur and Flexner and others, have induced dupes to send $30 for a dose of salvarsan (or what is claimed to be salvarsan) the regular price of which is $3.50, in the hope of curing themselves, when, in reality, the drug could not possibly be self-administered.

The truth about this remedy should be spread broadcast by physicians, by medical journals and by the press so that the public may not be imposed on by fakers, quacks and charlatans. The public should know that this preparation contains a very large percentage of arsenic, a most potent, poisonous and dangerous drug. It should also be known that it has not yet been proved that salvarsan permanently cures syphilis or "blood poison" in one dose, or even in any number of doses; that it cannot be used by patients themselves; that it must be given either hypodermically or intravenously by a competent physician, and that the patient should remain in a hospital for a number of days after its administration; that the drug is difficult to prepare and that it requires expert knowledge and experience both to prepare and to give it; that if not properly given it may cause intense pain lasting for hours or days and may cause destruction and sloughing of tissues at the site of injection; and that it may cause blindness, and that in some cases it may injure the heart or the kidneys and may cause death. Those physicians who have the largest experience in giving the drug are finding that the results so sensationally heralded at first are not permanent and that the dangers are much greater than were at first supposed. The statement made in the newspaper advertisements that "if you are threatened with blindness, paresis (complete loss of memory), rotting bones, decaying brain, ALL caused by contagious blood poison, '606' WILL SAVE YOU," is not true. The indiscriminate use of this drug by the public or by those not properly trained to administer it can only result in disappointment as well as loss of money and danger of serious injury or death.

Classification and Nomenclature of Cancers.—A committee composed of Drs. Delbet, Menetrier and Herrenschmidt reported at the recent international cancer conference on a uniform nomenclature for cancer. They advocate that all malignant tumors should be divided into three classes: (1) epithelial cancers; (2) connective tissue-vascular cancers (the generic term sarcoma applies to this class), and (3) cancers formed of multiple tissues. The first group, epithelial cancers, is subdivided into (*a*) epitheliomas of the skin and mucous membranes with stratified pavement epithelium; (*b*) those of the glands connected with stratified pavement surfaces and linings, including the sweat, sebaceous, mammary and salivary glands and alveoli, the thymus, thyroid and hypophysis; (*c*) those of cylindrical epithelium as in the nasal fossæ, the sinuses of the face, the larynx, trachea, bronchi and lungs, stomach and intestines, uterus and tubes and fetal chorion; (*d*) epitheliomas of the glands connected with the digestive tract, the liver, the bile ducts and pancreas; (*e*) epitheliomas of the visceral glands and epithelial parenchymas, as in the suprarenals, kidneys, pelvis, ureters, bladder, urethra, prostate, testicles and ovaries; (*f*) epitheliomas of nerve tissue neuroglia and neuroganglia, and of the organs of sense, the ear and eye. The second great class, the connective tissue-vascular variety or sarcoma, includes (*a*) sarcomas of ordinary connective tissue; they may be either spindle-celled, round or polymorphous celled, myxomatous or lipomatous; (*b*) sarcoma of tissues originating in connective tissue, specialized in bone or cartilage; (*c*) sarcoma of blood or lymph vessel tissue or of the spleen pulpa. This category includes also affections intermediate between simple hyperplasia and cancer, the chloromas and multiple myelomas; (*d*) sarcoma of endothelial and perithelial tissues, including cancer of the endothelial lining of the great serous membranes, and endothelial sarcoma of the joints, of the blood-producing system, meninges and vessels; (*e*) melanic sarcoma, and (*f*) sarcoma of muscle tissue. The third great group, cancers with multiple tissues, includes (*a*) those with a double combined malignant evolution, and (*b*) cancerous evolution of teratomas and embryomas. The term "carcinoma" should be dropped, the committee declares. It is merely the Greek word for "cancer," and cancer, carcinoma and *Krebs* are merely different terms for "the crab." According to the nomenclature proposed the malignant growth should always be designated as either an epithelioma or a sarcoma, accompanied by the name of the organ or tissue from which it is derived, and when precision is desired, by the structure of the growth and whether it is typical, atypical or metatypical, as for example, "an osteoid osteoblastic sarcoma of the jaw," or "a metatypical and infiltrating cylindrical epithelioma of the fundus of the uterus."

Preparation for and Care After Gynecologic Operations.—Dr. E. Holzbach, assistant at the Tübingen university clinic for women's diseases, in the *Sammlung klinischer Vorträge*, No. 575, reviews the outcome of gynecologic operations since the introduction of spinal anesthesia, the predominant use of the abdominal route, the transverse incision, abstention from tamponing and drainage, and allowing the patients to get up earlier. He warns that some of the vital organs may not be quite up to the task imposed on them by the anesthetic and the operation, so that when all seems to be progressing ideally, some one organ is liable to break down, and the patient succumb, when more careful preparation for the operation would have averted the fatality. Sudden diabetic coma, unexpected heart failure, cerebral hemorrhage from an overlooked contracted kidney, cystopyelitis or an irreparable psychosis might thus have been warded off if precautions against the special danger in each individual case had been taken or the psychic balance of the patient had been correctly estimated. He makes it a principle to inaugurate a systematic course of heart tonics before attempting any operation in case of a long existing myoma, as these growths and cancer are always accompanied by impairment of the heart and blood. In case of much hemorrhage, however, he refrains from heart tonics and saline infusion as liable to increase the tendency to hemorrhage and to dilute and possibly lake the blood. Even a small amount of salt solution may have this last effect. A little morphin, he declares, is the best means of combating the air hunger of anemia and conserving the heart energy. He remarks that all anesthetics have a more or less injurious action on the kidneys and even after spinal anesthesia the amount of albumin and formed elements in the urine notably increases; in pregnancy nephritis, spinal anesthesia is particularly dangerous on this account. If pathologic conditions in the kidneys are suspected they should be treated, the physician meanwhile striving to learn whether or not this complication contraindicates operation.

Every form of diabetes contraindicates all except urgent operations; coma is liable to develop in diabetics after inhalation or even local anesthesia, and Füth has reported a case of death after myomectomy under spinal anesthesia. Holzbach reports another case in which death followed in coma 48 hours after spinal anesthesia, preceded by the scopolamin "twilight sleep" from which the patient never roused. Purging enemas, etc., should be restricted to the minimum in diabetics before operations, while the food should be extra nourishing. With the transverse incision the intestines do not interfere with the field of operation, no matter how engorged they may be, while the bowels move afterward just as well whether the patient was purged beforehand or not. In fourteen recent major operations no attempt was made to keep the patients on a special diet or to empty the bowels before the operation and no meteorism followed while the bowels moved after the operation unusually early.

Subnormal Children and the Public School.—Henry H. Goddard (*Training School*, September, 1910) discusses what the public schools can do for subnormal children. He defines a subnormal child as one who is unable to do school work at the usual rate or who is behind his grade. The temporarily subnormal are those whose backwardness is due to sickness, physical impairment or unfavorable environment, who when the cause is removed will progress at a normal rate. The development of permanently subnormal children, if not at once totally arrested, is at least permanently retarded so that they become increasingly below the normal child of corresponding age, finally becoming completely arrested. These are the feeble-minded. They may be divided into (1) those whose development is totally arrested before the age of 3 (idiots); (2) those whose development is permanently arrested between the ages of 3 and 7 (imbeciles); (3) those whose development is arrested between the ages of 7 and 12. These it is proposed to call "morons," from the Greek word for fool—one who is deficient in judgment or sense. The morons and the imbeciles are the ones with whose development the schools are concerned. The school should give special attention to every child a year or more behind grade. Generally a sufficient physical reason can be found for his backwardness. If the reason is defective sight or hearing, the child should be sent to a specialist. If the reason lies in previous sickness or change in attendance from one city system to another then he may not need special care. If no condition of environment or of the physical organism is at fault, the child is either a moron or an imbecile, will always be behind and his development will finally stop completely some time before he is 12 years old. If his development becomes arrested at 6 he is an imbecile; if between 7 and 12 he becomes a high-grade feeble-minded child who can be trained to do a great many things, but who can never be made competent to take care of himself without direction. An examination in groups of these high-grade children, selected from 10,000 feeble-minded, shows that they are more variable in their growth and that they cease growing from two to three years earlier than the normal children. The lower grades are much farther below the normal in this respect. Such children must be taken out of the regular grades and given a special instructor who has been trained to understand them and to deal with them according to their natures. Mentally defective children constitute from 1 to 2 per cent. of the children in every school.

Value of Tuberculosis Classes to the Community.—In discussing this question, R. C. Cabot (*Journal Outdoor Life*, October, 1910) says: "A tuberculosis class is a weapon in the war against consumption. It is on the whole the most important weapon that we have, for in nine-tenths of the cases it is the only weapon available. Not more than one-tenth of those who suffer from tuberculosis can afford a change of climate or can be cared for in a sanatorium. The remaining nine-tenths must die unless they can be cured at home. This home treatment, with the hope of a home cure for tuberculosis, is the goal for which the tuberculosis class aims. The essentials of a tuberculosis class are: (a) a physician who knows tuberculosis thoroughly and is willing to give his time for a few hours a week to the examination of suspected cases and the general supervision of their treatment; (b) a nurse or trained visitor, who will carry out in the homes of the patients the details of the physician's instructions; (c) for the support and guidance of the undertaking, an antituberculosis association, whose members succeed by hook or crook in collecting between $750 and $1,000 a year. . . . One of the valuable functions of a tuberculosis class is to spread abroad the knowledge that not all tuberculosis, but only neglected tuberculosis, is dangerous—that not every patient, but only those who do not destroy their sputa and who neglect to cover the mouth while coughing, are a danger to others. The mere presence or contiguity of a consumptive is not dangerous. The presence of a tuberculosis class in a town, through its effect on public opinion, will tend to compel doctors and boards of health to obey the law. Rich and poor are alike in danger as long as there is tuberculosis not properly cared for in the community. In streets, public buildings, electric and steam cars there is always danger of contracting the disease as long as a single consumptive is allowed to remain ignorant of the dangers he scatters around him. To build a fence between the sound citizens and those infected, we need not so much isolation hospitals as we need home care and home teaching for every sufferer. When the patient refuses to protect himself and the rest of the community by adequate care of his sputa, the board of health should execute its authority, as it does in other contagious diseases."

Some Medical Aspects of Aviation.—Dr. E. Reymond of Paris is an experienced aviator besides practicing medicine and serving in the senate. He recently delivered a lecture on aviation at the Société de l'internat which is published in its bulletin (1910, vii, 223). He analyzes the flight of birds, remarking that he never had understood it until after he had tried to fly himself, and then describes his sensations as the monoplane rises with him and, being unable to see over the edge as it rises, he does not know whether he is going up or not. The injuries from a fall are about the same as from a fall from a high roof and the possibility of fracture of the spine or base of the skull calls for lumbar puncture. On the whole he has found that the accidents are much less serious than anticipated. In a recent collision between two aeroplanes at a height of about fifty feet, one aviator was extensively scratched and bruised but the lesions were all superficial. The other aviator was unconscious, but not even a bruise was found on him when he was taken from the machine, and two days later he was aviating again. Reymond remarks in conclusion that the sight of the aviator as he emerges from his machine, greasy with oil and with his eyes blood-shot, does not commend aviation as an attractive sport, but he thinks that it is something more and better than a sport, and he urges the French to complete the conquest of the air, in which they were pioneers. He does not refer to the effects of high altitudes, his experience being limited in this respect.

CLIPPINGS FROM LAY EXCHANGES

A NEW SYNONYM

"The patient L—— Z——, . . . is suffering from zygoma, or a broken bone in the side of his face."—Philadelphia *Telegraph*, Jan. 14, 1910.

BAFFLES WISE MEN FROM THE EAST

Miss A—— L—— B——, for fifteen years teacher of astronomy and mathematics . . . died . . . from a malady of the brain new to medical science. The ailment was diagnosed as brain tumor. . . . During the operation the surgeons met baffling conditions. . . . The disease was found to be similar to crystallization of the brain, but after carefully studying the symptoms and searching medical encyclopedias for opinions. . . . the surgeons agreed that the case was the first on record. Specialists came from the East and pronounced the disease an unknown one."—St. Louis *Republic*, Jan. 12, 1910.

AN APPROPRIATE SCAREHEAD

"His Backbone Removed: ' F—— L—— W—— of . . . has been pronounced by his physicians to have a very fair chance of recovering from a very unusual operation by which local physicians removed a portion of his backbone."—Newport (Ark.) *Independent*, May 24, 1910.

WHY DELAY?

"Drs. D—— . . . operated on the little fellow . . . Funeral arrangements have not been made."—Corunna (Mich.) *Journal*, March 17, 1910.

PRESERVE US FROM OUR LOVING FRIENDS

"C—— B——, is noted about the state as an exceedingly clever antiseptic surgeon. His presence was in constant demand last year at dangerous operations. This peculiar genius of his procured him an excellent position in one of New York City's large hospitals."—*Franklin County Reporter*, Hampton, Iowa, Jan. 12, 1910.

DIE SCHOENSTE LENGEVITCH

"A paper will be read by Dr. B—— on 'Acute Arterior Poliomy Elitsy'."—New Albany (Ind.) *Tribune*, Jan. 25, 1910.

"Dr. A. D. K——, who had for his theme 'Opitus Media,' pertaining to the middle ear: . . . later Dr. W. H. P—— read a paper on 'Ephinacea.'"—Lima (Ohio) *Democrat*, Feb. 2, 1910.

Marriages

George Emmett Knappenberger, M.D., Macomb, Ill., to Miss Agnes Carnduff of Aetna, Ind., January 26.

Adrian J. DeHaan, M.D., East St. Louis, Ill., to Miss Clara Ziegenhein of St. Louis, January 24.

Charles F. Ely, M.D., Chicago, to Miss Leila Fairbairn at South Bend, Ind., January 27.

Alfred L. S. Kane, M.D., Fort Wayne, Ind., to Miss Anna Marie MacDonald of Kalispell, Mont., in Chicago, January 23.

Robert Emmett Keaney, M.D., De Soto, Mo., to Mrs. McLouthlin, January 22.

Clarence Bertram Livingston, M.D., to Miss Addie Z. Johnston, both of Lowell, Mass., January 20.

Herbert Theodore Wagner, M.D., Indianapolis, to Miss Helen Bond of Chicago, January 26.

J. Asa Walker, M.D., to Miss Minnie Mae Kirst, both of Shawnee, Okla., Dec. 31, 1910.

Deaths

Sigmund Lustgarten, M.D. University of Vienna, Austria, 1881; a dermatologist held in high esteem in his community; died at his home in New York City, January 22, from general miliary tuberculosis, complicated by chronic nephritis and diabetes, aged 53. Dr. Lustgarten was a member of the Medical Society of the State of New York; American, New York, Austrian and German dermatological societies, and the Medical Society of Vienna. He was formerly a privat-docent in dermatology in the University of Vienna, and first assistant to Professor Kaposi. He was consulting dermatologist to the Montefiore Home, and Hebrew Orphan Asylum, and attending dermatologist to Mount Sinai Hospital. The medical board of the hospital, at a meeting January 23, adopted resolutions of the regret at the loss of one of the most faithful medical officers of the hospital, "distinguished by preeminence in his especial field of work, by unusual clinical ability, and by devotion to the highest ideals of the profession."

Abraham H. Strickler, M.D. Bellevue Hospital Medical College, 1866; for thirty-nine years a practitioner of Waynesboro, Pa.; died at his home, January 30, aged 70. During the Civil War, Dr. Strickler served as a medical cadet in the Federal service. For ten years he served as president of the board of health of Waynesboro. He was also a member of the school board and chief burgess. He was a member of the American Medical Association, and American Academy of Medicine, and prime mover and founder of the Medical Society of Franklin County, one of the most earnest workers in the society, a constant attendant at its meetings and indefatigable and watchful for its welfare. He was a member of the legislature in 1893 and 1894 and a leader in the discussions when the medical practice act was presented for passage.

Thomas Harris Cannon, M.D. University of Maryland, Baltimore, 1901; of Baltimore; a member of the American Medical Association and vice-president of the American Electro-Therapeutic Association; demonstrator in the clinical laboratory of the University of Maryland; physician to the Methodist Episcopal Home for the Aged, and surgeon to the Free Summer Excursion Society; a member of the hospital corps of the Army during the Spanish-American War; died in the University Hospital, January 29, from erysipelas, aged 32.

Bernard Wise Moore, M.D. University of Virginia, Charlottesville, 1894; a prominent practitioner of St. Louis; died at his home, January 22, from pneumonia, aged 39. After an internship in New York Hospitals until 1896, Dr. Moore moved to St. Louis, where he became instructor in obstetrics in Washington University, physician to Bethesda Maternity, St. Luke's Hospital, and the Martha Parsons Hospital for Children. Dr. Moore was admirably qualified for his work, an upright physician, a wise councilor and a staunch friend.

John W. Bond, M.D. New York University, New York City, 1846; demonstrator of anatomy in Baltimore University from 1846 to 1852; professor of theory and practice of medicine in Keokuk (Ia.) Medical College from 1856 to 1862; surgeon of the Thirtieth Iowa Volunteer Infantry from 1860 to 1865; later health officer of Toledo and for twenty-five years chief-of-staff of St. Vincent's Hospital; died at his home in Toledo, January 23, aged 86.

Eugene P. Hickok, M.D. Long Island College Hospital, Brooklyn, 1890; formerly a member of the American Medical Association; a member of the Medical Society of the State of New York, Brooklyn Neurological Society, and Brooklyn Pathological Society; visiting physician to Kings County and the Lutheran Hospitals; for many years a physician of East New York; died at his home on Lake George, January 19, aged 51.

Willis Warwood Ranshaw, M.D. Miami Medical College, Cincinnati, 1896; a member of the American Medical Association; and of the medical staff of Speers Memorial Hospital, Dayton, Ky., and Proctor's Children's Home, Covington, Ky.; and at one time health officer of that city; died at his home in Mammoth Cave, Ky., January 18, from heart disease, aged 39.

John Fletcher Byington, M.D. University of Michigan, Ann Arbor, 1897; a member of the American Medical Association, and American Academy of Ophthalmology and Oto-laryngology; professor of ophthalmology, otology and laryngology in the American Medical Missionary College, Chicago; ophthalmic and aural surgeon to the Battle Creek Sanitarium; died in that institution, January 27, from erysipelas, aged 30.

John W. DeWitt, M.D. Jefferson Medical College, 1863; a member of the Delaware State Medical Society; surgeon of the Seventeenth Pennsylvania Volunteer Cavalry during the Civil War; at one time president of the Delaware State Board of Health; and a member of the district board of pension examiners; died at his home in Saint George's, January 22, from senile debility, aged 70.

Oscar F. Davis, M.D. Kentucky School of Medicine, Louisville, 1885; first lieutenant Medical Reserve Corps, U. S. Army; formerly acting assistant surgeon, U. S. Army with service in the Philippine Islands; a member of the Association of Military Surgeons of the United States; died in the Army and Navy General Hospital, Hot Springs, Ark., February 1, from nephritis, aged 50.

Hugh Campbell Hendry, M.D. Bellevue Hospital Medical College, 1872; in 1875 police surgeon of Newark, and later a member of the board of education; for five years a member of the board of managers of the New Jersey State Hospital, Trenton; first president of the board of works of Newark; died at his home in Woodside, Newark, January 28, from heart disease, aged 61.

Arthur Walter Blair, M.D. University of Vermont, Burlington, 1881; of Dorchester, Mass.; a member of the American Medical Association; surgeon-general for the Commercial Travelers' Eastern Accident Association, and medical director of the Commercial Travelers' Boston Benefit Association; died suddenly in Duxbury, Mass., January 18, from heart disease, aged 62.

Charles G. Polk, M.D. New York University, New York City, 1858; acting assistant surgeon, U. S. Army, from 1865 to 1868; professor of chemistry in the Pennsylvania College of Pharmacy in 1875 and 1876; for more than forty years a practitioner of southwestern Philadelphia; died at the home of his son in Merchantsville, N. J., January 24, aged 75.

Frederick William Rohr, M.D. Bennett Medical College, Chicago, 1880; Rush Medical College, 1889; a member of the American Medical Association; for twelve years attending physician to the Alexian Brothers Hospital; director of the Illinois Piano College; died at his home in Chicago, January 27, from pneumonia following an attack of influenza, aged 52.

Justin Worthing Lamson, M.D. Rush Medical College, 1867; a member of the Missouri State Medical Association and Board of Pension Examiners of Neosho; mayor of that city, and a member of the legislature; until a few days before his death superintendent of State Hospital No. 3, Nevada; died at his home in Neosho, January 16, from nephritis, aged 67.

Edwin Darius Hutchinson, M.D. University of Vermont, Burlington, 1875; a member of the American Medical Association; a veteran of the Civil War; a member of the staff of the Noble Hospital, Westfield, Mass., since its opening, and later a member of the consulting staff; died at his home in Westfield, January 19, from pneumonia, aged 70.

Maurice Gardner Moore, M.D. Jefferson Medical College, 1894; a member of the American Medical Association, and formerly vice-president of the Indiana State Medical Association; lecturer on surgery in the Indiana School of Medicine; died at his home in Vincennes, Ind., January 26, from hemorrhage of the stomach, aged 39.

Frank Guy Sherwood, M.D. University of Buffalo (N. Y.), 1877; a member of the Medical Society of the State of New York and American Public Health Association; health officer of Albion; and coroner and jail physician of Orleans County; died at his home in Albion, January 27, from pleuro-pneumonia, aged 60.

Emory C. Gaffney, M.D. Hahnemann Medical College, Chicago, 1876; for several years a member of the Springfield (Ill.) Board of Health, and supreme medical examiner for the Fraternal Crystal Light Insurance Company; died at his home in Springfield, January 23, from cerebral hemorrhage, aged 61.

Charles E. Dow (license, years of practice, Maine); of Mapleton, Me.; for fifty-one years a practitioner; a member of the Maine Medical Association, and a charter member of the Aroostook County Medical Society; died in Boston, January 29, from cerebral hemorrhage.

W. Monroe Smith, M.D. Atlanta (Ga.) Medical College, 1895; a member of the Medical Association of Georgia; formerly ward physician of Atlanta, and a member of the common council; died while making a professional call, January 25, from heart disease, aged 38.

Franklin J. Whittemore, M.D. New York University, New York City, 1851; until 1890 a practitioner of Terryville and New Haven, Conn., and later in charge of a sanitarium at Clyde, O., for several years; died at his home in Toledo, January 27, aged 82.

Henry Gregory Charles Van Beeck, M.D. Rush Medical College, 1887; a member of the Minnesota State Medical Association; a member of the board of education of Hastings; died at his home in that city, Dec. 23, 1910, from heart disease, aged 49.

Daniel A. Cassela, M.D. Eclectic Medical College of the City of New York, 1885; New York University, New York City, 1890; of New York City; died in one of his drug stores, January 30, from the effects of gunshot wounds of the head, aged 47.

Harry Stephenson Wetzel, M.D. Hahnemann Medical College, Philadelphia, 1898; of Dayton, O.; radiologist to the Miami Valley Hospital; died in that institution, January 19, from the effects of a self-inflicted knife wound of the throat, aged 41.

Henry Crippen Neer, M.D. Berkshire Medical College, Pittsfield, Mass., 1860; a member of the American Medical Association; of Park Ridge, N. J.; died in the Hackensack (N. J.) Hospital, January 27, while undergoing operation for cancer, aged 72.

Isaac E. Randall, M.D. Albany (N. Y.) Medical College, 1866; a hospital steward in the army during the Civil War; division surgeon at Bay City for the Michigan Central Railroad; died at his home, January 20, from heart disease, aged 66.

Walter T. Roberts, M.D. Hospital College of Medicine, Louisville, 1883; of Louisville; died in St. Joseph's Infirmary in that city, January 25, from nephritis, following an operation, necessitated by abscess of the middle ear, aged 51.

George B. Gray, M.D. Medical College of Indiana, Indianapolis, 1884; of Worthington, Ind.; a member of the Indiana State Medical Association; died in a sanitarium in Rockford, Ill., January 20, from nephritis, aged 47.

Donald Boyd, M.D. Albany (N. Y.) Medical College, 1903; health officer of Valatie, N. Y.; died at his home in that place, January 23, from the effects of morphin, self-administered, it is believed, with suicidal intent, aged 34.

Nathaniel Ray Chace, M.D. Hahnemann Medical College, Philadelphia, 1872; was found dead in his office in Newport, R. I., January 17, aged 68. The medical examiner decided that death was due to natural causes.

William Amos Conn (years of practice, Virginia); for thirty-eight years a practitioner; a Confederate veteran; died at his home in McGaheysville, Va., January 3, from cancer of the liver, aged 66.

Britton S. Utley, M.D. College of Physicians and Surgeons, Baltimore, 1878; a member of the Medical Society of the State of North Carolina; died at his home in Holly Springs, January 19, aged 68.

Christopher E. Corlett, M.D. Western Reserve University, Cleveland, 1902; house physician at St. Alexis Hospital, Cleveland; died January 23, at his home in Cleveland, from pneumonia, aged 33.

Alexander Hardcastle, M.D. Jefferson Medical College, 1849; a member of the General Assembly of Maryland in 1870 and 1872; died at his home in Denton, January 24, from pneumonia, aged 84.

Addison C. Fox, M.D. Jefferson Medical College, 1861; surgeon in the Confederate service during the Civil War; died at his home in Baltimore, January 23, from pneumonia, aged 75.

Joseph A. Diemert, M.D. Western Reserve University, Cleveland, 1886; died at the home of his daughter in Cleveland, January 22, from rheumatic endocarditis, aged 54.

William J. Middleton (license, Idaho, 1899); for nineteen years a practitioner, a pioneer of Idaho; died at his home in Saint Anthony, January 13, from paresis.

James Faith, M.D. Eclectic Medical Institute, Cincinnati, 1869; died at his home in Palmyra, Illinois, January 18, from pneumonia, aged 69.

Hilary Tucker Sweeney, M.D. Harvard Medical School, 1889; died at his home in East Boston, January 11, from heart disease, aged 44.

Eli Granger Clark, M.D. Western Reserve University, Cleveland, 1852; died at his home in Willoughby, O., January 29, aged 84.

Joseph Francis Grainger, M.D. Tufts College Medical School, Boston, 1906; died at his home in Cambridge, January 23, aged 28.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

BISMUTH IODO-RESORCIN SULPHONATE

Report of the Council on Pharmacy and Chemistry

A pharmaceutical preparation submitted to the Council was said to contain as its essential ingredient, bismuth iodo-resorcin sulphonate. In accordance with its general procedure, the Council investigated this unofficial constituent when it considered the preparation that was said to contain it. The following report was made to the Council in reference to this constituent:

The Council, having voted to take up the consideration of bismuth iodo-resorcin sulphonate, the Association chemists were requested to investigate the composition of the specimen submitted by the firm whose pharmaceutical preparation contained this substance as an ingredient. The composition of this article, as determined by the chemists, varied widely from the composition that was claimed by the firm. In view of these discrepancies, the Council directed that the chemists' findings be submitted to the firm and an explanation requested. This was done and the firm replied by acknowledging the differences in general, but attacking in many minor ways the findings of the laboratory. The Association chemists now report an exhaustive reexamination of the product in reference to the points involved. This, while showing a slight modification of the previous findings, because more refined methods were used, shows on the whole, that the firm was grossly ignorant regarding the composition of its product. It also shows that the firm's attack on the chemists' work was without justification.

As this furnishes a typical illustration of the many obstacles which are put in the way of the Council and the laboratory, and since it is a good illustration of the lack of reliance which is to be placed on the statements of many firms, the referee has requested the chemists who made the examination to prepare a record of their work. This record is now presented and it is recommended that the Council authorize its publication. As it is not believed that the submission to the Council of a preparation untrue to claims was deliberate on the part of the firm, and inasmuch as more recently a specimen of bismuth iodo-resorcin sulphonate, containing the amount of iodin claimed, has actually been received, it is recommended that when the report is published, the names of the firm and of the preparation be omitted.

The Council authorized publication of this report and also of the contribution from the chemical laboratory, but in accordance with its regular custom, both reports were sent to the interested firm before publication. The firm, in reply, requested that before publication the report be modified. The referee of the Council submitted this reply to the chemists for comment and then requested that the entire matter be assigned to a second referee for an opinion. This was done and the second referee submitted the following report:

"Your referee has gone over the whole matter of the claims for the composition of the bismuth iodo-resorcin sulphonate. The firm submitting the product gives a formula which calls for the presence of 19.69 per cent. of iodin and 43.17 per cent. of bismuth. A preliminary analysis made in the Association laboratory showed about 10 per cent. of iodin and about 50.6 per cent. of bismuth. When these findings were submitted to the firm they questioned the accuracy of the analyses and presented some analyses of their own, which, however, did not support their own claims for the formula, but do suggest that the product cannot be a definite chemical compound of the composition assumed. A second analysis in the Association laboratory shows now 11.59 per cent. of iodin, as against 14.2 per cent. reported by the firm's chemist. The firm next set up the plea that the discrepancy may be explained by the hygroscopic character of the product, which, they say, the Association laboratory did not take into consideration.

"The present referee is of the opinion that the contention of the firm does not conform to the facts. The formula proposed by the firm gives a ratio of iodin to bismuth of 1:2.19, but according to the firm's own submitted analysis the ratio should be 1:3.19. This situation alone is sufficient to show the absurdity of the claim that the composition of the product is definitely known. It is probably an indefinite mixture, or at any rate a product the composition of which is not accurately known to the firm manufacturing it. The report of the Association laboratory gives the bismuth content even higher, and this would be still further increased if the moisture content were to be calculated out, as the firm finally contended. Such a correction would not help the firm's formula.

"Several of the statements in the letters from the firm are but little more than quibbles, and seem unworthy of consideration. The failure to substantiate a formula is enough to condemn the contention of the firm and to warrant a rejection of its claims. The final report of the Association laboratory appears to present a perfectly fair statement of the situation, and your referee recommends its publication in full as well as that of the first referee's report and of this report.

"It is worthy of notice, however, that while the Council is unable to accept bismuth iodo-resorcin sulphonate or the proprietary preparation containing it, as submitted by this firm, the firm's products have been materially improved as a result of the Council's investigation."

The second referee's report was adopted by the Council and in accordance with the recommendation, the matter is herewith published.

W. A. Puckner, Secretary.

[Contribution from the Chemical Laboratory of the American Medical Association]

Bismuth Iodo-Resorcin Sulphonate

W. A. PUCKNER AND L. E. WARREN

Some time ago a proprietary preparation (in the form of suppositories) which was said to contain bismuth iodo-resorcin sulphonate as its chief ingredient, was refused recognition by the Council because, among other things, the claims made in regard to its composition were not substantiated by the firm which sold it. Subsequently the results of the examination of this product in the Association laboratory were published,[1] and it was shown that the preparation contained only negligible amounts of iodin and hence could not possibly contain more than very small amounts of bismuth iodo-resorcin sulphonate.

A similar preparation was recently submitted to the Council with the claim that it contained bismuth iodo-resorcin sulphonate as its essential constituent. In accordance with its usual procedure the Council considered this constituent at the same time that the preparation containing it was taken up.

The formula assigned by the manufacturer to this substance is as follows:

$$[C_6H_2(OH)_2ISO_3]_3Bi.3Bi(OH)_3$$

Bismuth iodo-resorcin sulphonate apparently is not described in chemical literature. The manufacturer of the specimen examined stated, however, that the process for the manufacture of the substance was "the subject of a patent application" by the firm. The potassium salt, from which the bismuth salt is said to be prepared, has been obtained in the form of microscopic crystals containing three molecules of water of hydration.[2]

$$KC_6H_2(OH)_2ISO_3+3H_2O$$

THE QUESTIONS INVOLVED

The points involved in the examination which is here reported[3] have been classified as follows, for the purpose of bringing out the matter more clearly:

1. From the formula submitted by the manufacturer it was calculated that the bismuth salt should contain 19.69 per cent. iodin and 43.17 per cent. bismuth.

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[1] Anusol Hemorrhoidal Suppositories: The Journal A. M. A., Oct. 2, 1909, p. 1112.

[2] Fischer: Monatschr. f. Chem., ii, 1881, 340.

[3] The details of the analysis will be sent on receipt of a stamped, addressed envelope; they will also be published in the annual report of the chemical laboratory.

2. From the formula found in the literature it was also calculated that the potassium salt should contain 31.079 per cent. iodin and 13.22 per cent. of water.

3. In the first examination we reported finding but about 10 per cent. of *iodin in the bismuth salt* (in which 19.69 per cent. iodin had been claimed) and about 50.6 per cent. of bismuth, an amount considerably larger than that indicated by the formula.

4. We also reported finding about 28.06 per cent. iodin in the *firm's specimen of potassium iodo-resorcin sulphonate in* which, if the formula were correct, there should have been 31.079 per cent.

THE FIRM'S REPLY

These facts, substantially as given, were submitted to the firm which replied to the points raised as follows:

1a.—The theoretical iodin content of the firm's bismuth salt was 20.76 per cent. and its bismuth content was 45.36 per cent.

2a.—The potassium salt contained no water of hydration and theoretically should, therefore, contain 35.84 per cent. of iodin.

3a and 4a.—The method used by the Association laboratory for the determination of iodin was not a standard one in chemical literature since it gave but about 70 per cent. of the total iodin present. After the firm had reexamined a portion of the original specimen, it reported that by its method it had found 14.2 per cent. iodin. According to the formula it should have contained 19.69 per cent. iodin, although the Association chemists had found but about 10 per cent. iodin. The firm stated that in the earlier examinations of its product a reagent had been used which was afterward found to contain large amounts of chlorin. In making the iodin estimations this chlorin was weighed as (silver) iodid with consequent erroneous results, *no control estimations, evidently*, having been made.

REEXAMINATION BY THE LABORATORY

Our calculations of the theoretical iodin and bismuth content in bismuth iodo-resorcin sulphonate having been challenged, the values were recalculated. This recalculation showed that the values first reported were correct and that *the firm's challenge was unwarranted.*

Our findings concerning the iodin content in bismuth iodo-resorcin sulphonate also having been challenged, the iodin in the original specimen was redetermined by several independent methods. The highest result obtained by any method was 11.59 per cent. iodin. Although somewhat higher than that obtained by the method previously used, it is still considerably less than was claimed by the firm in its reexamination, viz., 14.2 per cent. An appreciable quantity of chlorin was also found, which may explain, at least in part, the firm's wrong estimate of its product.

On reexamining the potassium salt we found 32.00 per cent. of iodin and 10.41 per cent. of water—this notwithstanding the fact that the firm had asserted that its product contained no water of hydration.

A review of the above facts shows that the contentions of the firm *could not be substantially confirmed. To summarize:*

SUMMARY

1. The firm's claim that the laboratory's calculations were wrong is shown to be unfounded.

2. The firm's statement that its potassium salt of iodo-resorcin sulphonic acid contained no water of hydration is shown to be wrong, the salt, in fact, containing more than 10.0 per cent. of water.

3. The contention of the firm that the first method of analysis used by the Association laboratory gives low results is correct. The assertion is, however, not justified that the method gives but 70 per cent. of the iodin present since the amount first reported by us is about 88 per cent. of the amount found later.

The accompanying table gives in graphic form the essential points of the controversy.

	According to firm's formula or formula in literature.	According to analysis of Association chemists.	According to the firm's revised statements.	According to the check analysis of Association chemists.
Iodin content in bismuth salt ...	19.69 *	10.00	20.76 § 14.20	11.59
Bismuth content in bismuth salt ...	43.17 *	50.60	45.36 §	No analysis made.
Iodin content in potassium salt..	31.079 †	28.06	35.84	32.00
Water of hydration in potassium salt	13.22 †	No analysis.	0.0	10.41

* Based on formula given by firm.

† Based on formula given in literature.

§ These figures were later acknowledged by the firm to be incorrect.

PHYSICIAN AND DRUGGIST

Charles M. Siever, Ph.G., M.D.

HOLTON, KANS.

The difference that has long existed between physician and druggist in regard to counter prescribing and the refilling of physicians' prescriptions has been brought about, in part by the action of the physician himself, and in part by the misuse of the prescription by the druggist; that is, the refilling of the prescription by the druggist without the permission of the physician who wrote it. This refilling has often been done, not only for the person for whom it was originally intended, but for persons who have not had even a speaking acquaintance with the physician. Too many physicians use in their prescriptions so many proprietary preparations, which are so labeled, and the therapeutic indications given in such detail, that the druggist feels in dispensing them that he is handing out no more than a "patent medicine," and, as a matter of fact, that is what they amount to and what they often become.

Many patients soon learn the name of this class of remedies and call for them without a physician's prescription; so that *in many cases* the dispensing of ready-made preparations, or the refilling of prescriptions, is not wholly the fault of the druggists. While I believe the majority of druggists are honest and would not refill prescriptions if physicians asked them not to do so, yet many prescriptions are so simple, especially those for proprietary preparations—ready-made pills and tablets—that it is a great temptation for even the most honorable druggist to refill such prescriptions. In so doing he feels that he is saving the patient a *fee, and also making a sale* for himself. I do not believe the physician should use so much ready-made stuff, yet the druggist should not take advantage of his weakness, even in selling or refilling a prescription for such a simple thing as a laxative pill. There are many prescriptions refilled for patients which no doubt do them more harm than good, and in order to save the druggist from this temptation, and to protect the interests of the physician as well as the physical interest of the patient, there ought to be some better method devised than the one now in vogue.

This brings up the question of who owns the prescription. In my opinion, it is the exclusive property of the physician. It is simply an order on the druggist to prepare certain medicine for a certain person and to label it according to instructions. After it is filled, the patient has no more claim on it than he has on a check after it has been cashed. The druggist has no more right to retain the prescription than the bank has to retain the check after it has fulfilled its mission; but as a precaution and for the protection of the druggist, he should be allowed to place it on file for a reasonable length of time, perhaps not to exceed thirty days. At the end of that time, it should be returned to the physician who wrote it, to be destroyed or otherwise, as he sees fit.

The working of such a system would be as follows:

> The physician would give the patient a prescription, stating the date and for whom the medicine was to be prepared.
>
> The patient would take the prescription to the druggist who would prepare the medicine and then stamp the prescription with a stamp which would state that the prescription had been filled on a certain date and was cancelled.

The druggist would then file it away for thirty days, but under no circumstances would he be allowed to refill, copy or in any manner communicate the ingredients of the prescription to any one, unless it be for his own protection on account of some alleged error, etc.

At the end of thirty days the prescription would be returned to the physician who wrote it.

I believe a law to this effect would be satisfactory to all concerned and accomplish a great deal in the way of getting the physician and druggist more closely together, which would be a most desirable thing; for a physician cannot hold his exalted position and give his best work to his patients if he has constantly to keep in mind commercial considerations. Such a law, operating in all of the states, would make the relation of the physician and druggist more pleasant, would do away with counter prescribing by the druggist and would also lessen self-drugging by the laity.

[EDITORIAL COMMENT:—Dr. Siever gives arguments against the indiscriminate use of ready-made mixtures which are incontrovertible. They should convince those physicians who have been thoughtless enough to prescribe the various ready-made pills, tablets, syrups and elixirs with which this country is deluged that it is to the best interests of the physician, the patient and the public that individual prescriptions be written for individual cases. The proposed return of the physician's prescription to the writer within a specified time would be most desirable in many ways. At present the pharmacist is generally looked on as the custodian of the prescription and it will require considerable effort to convince the pharmacist and particularly the public of the correctness of this better view as to the ownership of prescriptions. A discussion of this matter would certainly be of interest].

Correspondence

The Niemeyer Pill

To the Editor:—The well-known pill of calomel, squills and digitalis no doubt antedates the time of Niemeyer, as suggested by Dr. James Tyson in THE JOURNAL, Jan. 21, 1911, p. 211. It was usually prescribed:

℞ Hydrargyri chloridi miti	ʒss
Pulveris scillæ	ʒi
Pulveris digitalis	ʒss

M. et fiat pilulas XXXII.
Sig. One every four or five hours.

This pill was used for ascites, dropsy and effusions. I worked out many a one over forty years ago, and my father-in-law, the late Dr. Henry Carpenter, prescribed and worked out the same formula more than thirty years before my time. There was, however, a pill prescribed by Dr. C. Murchison, of London, consisting of:

℞ Pulveris scillæ	gr. iss
Pulveris digitalis fol	gr. ss
Pilulæ hydrargyri	gr. ii

M. et fiat pilulam I.
Sig. One such pill three times daily in ascites.

This pill enjoyed a long and creditable reputation in the treatment of dropsy.

Felix v. Niemeyer's pill may have been suggested about 1869 (See his Text-Book on Practical Medicine, Am. Ed., 1869, Vol I, p. 244) with a view of combating the fever of phthisis. It consisted in:

℞ Pulveris digitalis fol	gr. ss
Pulveris ipecacuanhæ	
Pulveris opii, āā	gr. ¼
Extracti helenii, q.s	

M. et fiat pilulam I.
Sig. One pill three times daily.

Quinin sulphate, gr. 1, was added to the above prescription when the type of fever became periodical, and the exacerbations and chills much pronounced.

ROBERT M. BOLENIUS, Lancaster, Pa.

[The above was submitted to Dr. Tyson who comments:]

To the Editor:—Dr. Bolenius is correct. Of course many modifications of the doses and even constituents of the true Niemeyer's pill have been made by various prescribers to meet special indications and it is likely that Niemeyer's pill itself was suggested to him by Heim's pill which is also given on page 244, Vol. 1, of Niemeyer's "Practice" and of which the formula is given by Dr. Bolenius in the last prescription of his letter. Niemeyer says much the same thing in his "Practice" as I quoted but I preferred to refer to his little book on "Pulmonary Consumption" because it is especially devoted to the subject.

Since my letter to THE JOURNAL Dr. Cattell has called my attention to the fact that in his "Medical Dictionary" published by Lippincott, edition of 1910, he has given the correct formula for Niemeyer's pill and I so find it.

JAMES TYSON, Philadelphia.

Pasteurized Milk at Randall's Island

To the Editor:—In THE JOURNAL (Jan. 7, 1911, p. 20), there appeared a very interesting paper on infant mortality by Drs. Koehler and Drake. On page 23 were the following paragraph and table:

> *The Mortality at the Infant Asylum at Randall's Island.*—When the infants in the care of the City of New York were fed on milk from a carefully selected herd pastured on the island, the death-rate was as shown in the first part of Table 5. A pasteurizing plant was installed in the early part of 1898. No other change in diet or hygiene was made.

TABLE 5.—DEATH-RATE AT THE INFANT ASYLUM, RANDALL'S ISLAND

BEFORE THE USE OF PASTEURIZED MILK

	Children Treated	No. of Deaths	Percentage
1895	1,216	511	42.02
1896	1.212	474	39.11
1897	1,181	524	44.36
Total	3,609	1,509	41.81

AFTER THE USE OF PASTEURIZED MILK

	Children Treated	No. of Deaths	Percentage
1898	1,284	255	19.80
1899	1,097	269	24.52
1900	1,084	300	27.68
1901	1,028	186	18.09
1902	820	181	22.07
1903	542	101	18.63
1904	345	57	16.52
Total	6,200	1,349	21.75

The Department of Charities published no reports from 1894 to 1902. Examination of the original records shows that, while the figures are correct for the most part, the accompanying statements and deductions are erroneous. Similar assertions have been made before and refuted in public meetings at the New York Academy of Medicine and elsewhere, as well as in print.

The following extracts from the minutes of the meetings of the medical board show chronologically the development of feeding by sterilized and pasteurized milk, and the difficulties attending its introduction in a public institution:

> 1888—October. "Recommended that a method of sterilizing milk be adopted for the Infant's Hospital."
>
> 1890—October. "Dr. Van Santvoord reported that some weeks ago he investigated the method of sterilization of the milk practiced in the Infants' Hospital and found that it was very carelessly done by the workhouse women. He put it under direct control of the managing nurse and the result had been greatly to the benefit of the children."
>
> 1893—February. "Recommend immediate change in sterilization of milk. That it be put (again) in charge of a competent nurse," etc.
>
> 1895—February. Special report on milk-supply by W. L. Stowell. "Bottle-fed infants are given milk from cows on the island. . . . The milk is brought to the hospital immediately after milking and then pasteurized for twenty minutes at a temperature of 170 F. This is done in large steam caldrons in the kitchen."
>
> NOTE.—This is the first year of the table mentioned as "Before the Use of Pasteurized Milk." An error.
>
> 1896—In this year *percentage feeding* was introduced. A number of stock formulas were made up daily and pasteurized for twenty minutes in feeding bottles bearing metal collars with the percentages as 3.5-6.5-1.5. This was done for a time in the steam cooking-caldrons, but later in wash-boilers heated over gas stoves.

Note.—This year also appears in the table as "Before the Use of Pasteurized Milk." An error.

1897—July. Walker-Gordon cream was recommended.

1898—This was a revolutionary year in the history of the institution. The infants were removed to pavilions and the main hospital was practically rebuilt except the walls. There were new plumbing, new floors and new metal ceilings throughout.

Beginning in January, 1898, all the bottle-fed infants received modified Walker-Gordon cream. At the March meeting Walker-Gordon cream was mentioned with praise.

April meeting. The executive committee reported that Mr. N. Straus had given a pasteurizing apparatus for milk. This proved to be a set of eight copper boilers instead of the tin ones used until then. The committee also commended the nurse in charge of the milk.

In May, "Attending Physician Stowell reported more and better nurses than heretofore, more graduate nurses and therefore better results." The number of wet-nurses was increased from twenty to fifty and they nursed 139 babies. "No change in diet," says the paper.

Beginning in January all infectious diseases were removed from the island by the Department of Health, thus saving mortality figures at Randall's Island.

Boarding or farming-out was resumed in April, sixty-one babies being sent to country homes. "No change in hygiene was made"?

The superintendent's report to the commission contains this: "Many improvements were inaugurated and carried out."

1901—January. Dr. Neff reports a great number of infants in bad condition, and says: "The milk fed the children should come from the cows on the island" (referring to bottle-fed infants).

1903—October. "An average of thirty babies daily have received modified milk prepared from Walker-Gordon cream. Cooley creamers have now been provided and hereafter we can produce our own gravity cream." This was in the hope of having fresh cream with low bacterial count.

Thus we find that Walker-Gordon cream was in use for six years. 1898-1903, whereas the article referred to credits "a carefully selected herd on the island." Alas! the history of that herd and their tuberculosis has been published (*Medical Record*, June 20, 1908).

It is a matter of record that sterilized milk was in use there as early as 1890, and that pasteurized milk was in use through all the years of the table. "Before and after the use of pasteurized milk," are therefore contrary to fact. Instead of "no change in hygiene," there was removal of some infants to pavilions, some to the country, and all the contagious cases from the island. Instead of "no other change in diet" witness the records:

	1897	1898	1899	1900	1901
Orphans wet-nursed	21	138	152	156	159
Orphans bottle-fed	591	506	462	389	262

The percentage of deaths was at its highest point under pasteurized milk. Other factors caused the fall, not pasteurized milk.

William L. Stowell, New York.
Visiting Physician to the New York City Children's Hospital and Schools, Randall's Island.

[A proof of the above was referred to the authors of the article criticized and they reply:]

To the Editor:—The statistics quoted in our article were taken from page 243 of the chapter on "Morbidity and Mortality Statistics as Influenced by Milk" in Bulletin 56 of the Hygienic Laboratory, entitled "Milk and Its Relation to Public Health." The article is written by Dr. J. M. Eager, Assistant Surgeon-General, Public Health and Marine-Hospital Service. No reference is made to the original source of these statistics, and we took it for granted that they were taken from the reports of the Infant Asylum at Randall's Island, by the government official. We have not had a chance to examine the original records giving the mortality figures for the Infant Asylum at Randall's Island, and are glad to note that Dr. Stowell says that the figures quoted "are correct for the most part."

The fall in the death-rate since 1879 is attributed in our article to the installation of a pasteurizing plant. The extracts from the minutes of the meeting of the medical board of the institution show that the pasteurizing plant was given by Mr. Nathan Straus to the institution in April, 1898.

Extracts from the minutes are quoted to show that before this time the milk had been sterilized, and that in 1895 the milk was heated in large steam caldrons in the kitchen, and in 1896 in wash boilers, heated over gas stoves. From the comments on the methods of "sterilization" practiced, appearing in the extracts of the minutes for 1890 and 1893 it appears that they were not carried out very satisfactorily.

The improvements made since 1897 in the sanitary conditions of the institution, and in the care of the patients are such as have been made in many other infant asylums and hospitals. In the report of the Department of Charities for 1893 there is recorded a long list, covering three pages, of improvements in the building, equipment and caretaking. Why did this not result in an immediate lowering of the death-rate in 1893?

Bottle feeding was practiced quite as extensively in 1898, as in 1897, and the percentage of deaths in the two years is 44.36 and 19.80, respectively.

After a careful study of the extracts from the minutes quoted in Dr. Stowell's letter, we are still of the opinion that the fall in the infant mortality, beginning in 1898, simultaneously with the installation of improved pasteurizing apparatus given by Mr. Nathan Straus, is due to the change in diet and cannot be explained on the basis of sanitary improvements or attributed to the other changes made in the institution.

Gottfried Koehler, M.D., Chicago.
Assistant Commissioner of Health.
C. St. Clair Drake, M.D., Chicago.
Assistant Chief, Bureau of Vital Statistics.

Not Prepared to Furnish Cancer Serum

To the Editor:—In the New York news in The Journal, January 28, it is stated that I have announced that I am prepared to supply a serum which has been shown to be effective in treating cancer. This statement is wrong. The dispatches which have appeared in the daily press referring to an interview in one of the Buffalo papers have been so changed from the original as entirely to misrepresent my position.

I have not announced a cure for cancer. Neither do I believe that vaccination will be beneficial in more than a limited percentage of cases. The results obtained in this laboratory have shown that methods which have given experimental results with animals have some applicability in human beings. There have been encouraging results in a limited number of cases. The method is not applicable in advanced cases; some patients have done badly under this treatment.

The matter is still in the experimental state, and it is not possible to place the vaccine in the hands of the profession, nor would it be desirable for patients to come to Buffalo at the present time. The results have been sufficiently encouraging, however, to warrant asking the State of New York to provide a hospital for the purpose of developing and elaborating this and other methods of treatment for cancer.

Harvey R. Gaylord, Director of Cancer Laboratory.

Pneumonic Plague in China

To the Editor:—Noting the pneumonic character of the plague in China and the fact that there are no dead rats, I would say that while in Siam it was my observation and knowledge that the pneumonic form of the disease was contracted from patients with the bubonic form and from rats. I have also found dead rats and dead chickens under the houses of those dead of the pneumonic form of the plague.

Eleven people died in one house of the pneumonic plague. The disease was carried by infected rats which traveled from Korat, where the bubonic form prevailed, in freight trains loaded with rice, to Ban Phagi, 100 miles away, where plague in the pneumonic form broke out ten days later than at Korat. The reason the pneumonic form was not so prevalent in Siam is that the people live practically in the open air, so that personal contagion is greatly eliminated.

Charles S. Braddock, Jr., New York.
Late Chief Medical Inspector, Royal Siamese Government.

A Correction of the Carnegie Foundation Report on Medical Education in Montreal

To the Editor:—Permit me to utilize your columns in order to rectify an error in Bulletin 4 of the Carnegie Foundation, dealing with Medical Education in the United States and Canada. I refer to my account of the medical department of Laval University, Montreal. This institution is entirely distinct from Laval University, Quebec, which also has a medical department. The Quebec school, however, publishes in its catalogue certain data respecting the Montreal school, and I inadvertently give in my account of the Montreal school some material taken from the inadequate statement in the Quebec catalogue.

The staff of the Montreal school numbers 50, of whom 20 are professors.

The number of beds in the two general hospitals used should have been given as 290, and an additional statement that the school has several supplementary hospitals should have been made.

The lectures on chemistry for medical students are given by a professor in the medical faculty.

Abraham Flexner, New York City.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AGAR-AGAR IN CONSTIPATION

To the Editor:—Please describe the use of agar-agar in the treatment of constipation. X. Y. Z.

To the Editor:—Please give references to the literature on the agar-agar treatment of constipation. J. K. B.

Answer.—A small proportion of constipated individuals owe their constipation to a too vigorous digestion, which removes from the intestinal contents all the soluble and nutritive constituents and leaves a mass which becomes hard and dry, and in which bacteria fail to produce the acids which normally stimulate the bowels to move. This difficulty is often increased by a too nutritious diet; that is, the patient is not in the habit of eating enough food with debris in it, such as whole wheat or graham bread and the vegetables and fruits which have indigestible fibers.

For this condition agar-agar is prescribed because it is an insoluble and indigestible substance with a marked affinity for water; consequently, when a considerable quantity of it is taken it absorbs water in the intestinal canal, and thus renders the feces soft and bulky. The softness ensures easy passage and their bulk stimulates the action of the bowel on the principle that tension of a muscle arouses its contractile power.

Agar-agar is found in commerce in the form of strips, which must be ground or cut into small pieces for use. It can also be obtained in the form of a coarse powder. It is administered in a dose of from a teaspoonful to a tablespoonful, or more, once or twice daily, mixed with some form of food, such as cereal, stewed apples, etc.

The following articles discuss this subject:

Schmidt, A.: Explanation and Rational Treatment of Habitual Constipation, *München. med. Wchnschr.*, Oct. 10, 1905; abstracted in The Journal, Dec. 23, 1905, p. 1992.

Mangelsdorff: Agar-Agar in Habitual Constipation, *Therap. Monatshefte*, May, 1908; abstracted in The Journal, June 20, 1908, p. 2117.

Gompertz, L. M.: Chronic Constipation Clinically Considered, Am. Jour. Med. Science, October, 1909.

Martinet, A.: Agar-Agar in Chronic Constipation, *Presse Médicale*, Paris, March 30, 1910.

Gompertz, L. M.: Agar-Agar Treatment of Chronic Constipation, *Practitioner*, London, May, 1910; abstracted in The Journal, July 2, 1910, p. 89.

Morse, L. J.: Agar-Agar in Treatment of Constipation in Childhood, The Journal, Sept. 10, 1910, p. 934.

WORKS ON PRODUCTION OF CLEAN MILK

To the Editor:—I note in The Journal (January 7, p. 48), an editorial on milk production, in which you refer to an article in *Hoards Dairyman*. Please give me the address of the publishers, and the names of publications and publishers of any other recent works on the production of clean milk.

W. B. Summerall, Atlanta, Ga.

Answer.—*Hoards Dairyman* is a periodical published in Chicago, at 164 Dearborn Street.

The following are some of the books which may be consulted on this subject; the Hygienic Laboratory bulletin gives a very complete bibliography:

Pearson: Jensen's Milk Hygiene, J. B. Lippincott Co., Philadelphia.

Spargo: The Common Sense of the Milk Question, Macmillan Co., New York.

Milk and Its Relation to the Public Health, Bull. 56, Hyg. Lab., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Ward: Pure Milk and the Public Health, Taylor and Carpenter, Ithaca.

WATER SUPPLIES AND TYPHOID

To the Editor:—Three or four years ago The Journal published a comprehensive article on the water-supply of cities, showing the sources of water and the death rate from typhoid during the year. I have probably loaned the article and am not now able to locate it with the indexes at hand. Can you give me the date on which it appeared, and also any more recent articles along this line?

G. L. King, Alliance, Ohio.

Answer.—The article referred to is probably one which appeared serially in The Journal, May 18 and 25 and June 1 and 8, 1907. Other articles on the subject which may be of interest are as follows:

Typhoid Epidemics at Ithaca; special article in The Journal, March 21 and 28 and April 4, 1903.

Typhoid Epidemic at Butler, Pa.; special article in The Journal, Dec. 12, 1903, p. 1476.

Fulton, J. S.: Typhoid Fever and Hindrances in Its Prophylaxis, The Journal, Jan. 9, 1904, p. 1.

Johnson, W. S.: Quality of Public Water-Supplies, The Journal, Aug. 31, 1907, p. 762.

Clark, H. W.: Filtration of Public Water-Supplies, The Journal, Aug. 31, 1907, p. 764.

Dutton, W. F.: Responsibilities of Municipalities in the Ohio Valley for Epidemics of Typhoid Fever, The Journal, Oct. 31, 1908, p. 1496.

Breitenbach, O. C.: Choleriform Diarrhea of Cold Weather—"Winter Cholera," The Journal, Oct. 31, 1908, p. 1496.

Soper, G. A.: The Discharge of Sewage Into Tidal Waters, The Journal, April 17, 1909, p. 1221.

Evans, W. A.: Lake Michigan Water for Drinking Purposes, The Journal, Oct. 2, 1909, p. 1091.

Wood, H. B.: The Economic Value of Protecting Water-Supplies, The Journal, Oct. 2, 1909, p. 1093.

Lumsden, L. L.: Epidemiologic Studies of Typhoid Fever, The Journal, Oct. 16, 1909, p. 1257.

Typhoid Fever in Milwaukee and the Water-Supply; special article in The Journal, July 16, 1910, p. 211.

Fell, G. E.: The Currents at the Easterly End of Lake Erie and Head of Niagara River, and Their Influence on Sanitation of City of Buffalo, The Journal, Sept. 3, 1910, p. 828.

Dutton, W. F.: *Present-Day* Problems and Progress in Prevention of Typhoid Fever, The Journal, Sept. 3, 1910, p. 834.

Typhoid Fever in Detroit and the Water-Supply; special article in The Journal, Oct. 8, 1910, p. 1284.

Typhoid Fever in Des Moines, Iowa, and the Water-Supply; special article in The Journal, Jan. 7, 1911, p. 41.

WHY THE FETUS DOES NOT DROWN IN THE LIQUOR AMNII

To the Editor:—Why is it that the fetus does not drown in the bag of waters? H. K. M.

Answer.—Until the fetus is expelled into the world the lungs are in a condition of complete atelectasis. No respiratory movements have occurred; hence there has been no opportunity for the liquor amnii to enter the air cells. The fetus obtains its oxygen through the maternal blood and cannot drown. After expulsion there does not remain a sufficient amount of liquid in the air passages to interfere with breathing.

INSTITUTES FOR MEDICAL RESEARCH

To the Editor:—Please give the names and addresses of the various endowed institutes for medical research in this country.

W. B. LaForce, M.D., Ottumwa, Iowa.

Answer.—Two prominent endowed institutions for medical research are:

Rockefeller Institute for Medical Research, New York.

Memorial Institute for Infectious Diseases, Chicago.

In addition there are various laboratories working under gifts or endowments that carry on research in various special lines, or in general lines. Among them are:

Crocker Cancer Research Fund, New York.

Russell Sage Foundation, New York. Special funds are sometimes granted by this foundation for carrying on work in certain lines.

St. Louis Skin and Cancer Hospital, St. Louis. This institution is doing special research work under Prof. Leo Loeb in cancer, and has a specially equipped laboratory for this purpose.

Cushing Laboratory, Cleveland, Ohio.

Ayer Clinical Laboratory, Philadelphia.

William Pepper Medical Laboratory (U. of P.), Philadelphia.

Phipps Institute for the Study of Tuberculosis, Philadelphia.

Bender Laboratory for Cancer Research, Buffalo, N. Y.

Wistar Institute of Anatomy, Philadelphia.

Harvard, Columbia, Cornell and Johns Hopkins each have research laboratories working under special or general endowment.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 4, 1911.

Allen, William H., lieut., ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

Skelton, Robert, M.R.C., ordered to active duty and will proceed to Fort Adams, R. I., for station and duty.

Little, William L., captain, granted two months' leave of absence.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Leslie, Samuel H., D.S., returned to Fort Leavenworth, Kan., from temporary duty at Fort Riley, Kan.

Davis, Oscar F., M.R.C., died at Army and Navy General Hospital, Hot Springs, Ark.

Eber, Albert H., M.R.C., assigned to permanent duty at Fort Dade, Fla.

Tuttle, George B., M.R.C., granted leave of absence for one month and twenty-one days.

Hayne, James A., M.R.C., granted leave of absence for two months.

Bartlett, G. J., captain, leave of absence extended twelve days.

Ebert, Rudolph G., colonel, promoted to, with rank from Dec. 27, 1910.

Arthur, William H., colonel, promoted to, with rank from Jan. 1, 1911.

Willcox, Charles, lieut.-colonel, promoted to, with rank from Dec. 27, 1910.

Raymond, Thomas U.; Snyder, Henry D.; Smith, Allen M., and Clarke, Joseph T., lieut.-colonels, promoted to, with rank from Jan. 1, 1911.

De Laney, Matthew A., major, promoted to, with rank from Dec. 27, 1910.

Halloran, Paul S.; Fidd, Peter C.; Brechemin, Louis, Jr.; Bloombergh, Horace D.; Nelson, Kent, and Shaw, Herbert G., promoted with rank from Jan. 1, 1911.

McAlister, John A., D.S., reported for duty at Fort Leavenworth, Kan.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the Army Medical School, this city, and will proceed to his home, and on arrival there will report by telegraph to the adjutant general of the Army: Blair, Faris M.; Dolley, Gilman C.; Lynch, Edward C.; McLaughlin, William F.; Pulver, Arthur L.; Scherer, Carl A.; Underwood Gordon B.; Williams, Harry B.; Wilson, James H. Each of the officers named will stand relieved from further active duty in the Medical Reserve Corps, to take effect on his arrival at his home.

Fauntleroy, P. C., major, February 1, orders detailing him for a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan., is revoked.

Van Poole, G. M., major, detailed to represent the Medical Department of the Army at the fourth annual meeting of the Lake Michigan Sanitary Association, Chicago, Feb. 18, 1911.

Stark, Alexander N., major, granted leave of absence for one month and twenty days.

Dean, Elmer A., major, detailed to take the course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan.

Thearle, William H., lieut., ordered to proceed to Jefferson Barracks, Mo., for temporary duty, until the arrival at that post of Captain Guy V. Rukke, Medical Corps.

Thomason, Henry D., major, leave of absence extended ten days.

Medical Corps, U. S. Navy

Changes for the week ended Feb. 4, 1911.

Lando, M. E., P. A. surgeon, resignation accepted to take effect Jan. 31, 1911.

Garrison, H. A., P. A. surgeon, commissioned passed assistant surgeon from June 27, 1910

Holeman, C. J., P. A. surgeon, commissioned passed assistant surgeon from Sept. 21, 1910.

George, C. M., and Sheldon, L., Jr., P. A. surgeons, commissioned assistant surgeons from Dec. 24, 1910.

Elliott, M. S., surgeon, detached from command of the naval hospital, Washington, D. C., and ordered to the Naval Medical School, Washington, D. C., for course of instruction.

McLean, A. D., P. A. surgeon, ordered to duty in attendance on officers and their families on duty at Washington, D. C.

Strite, C. E., P. A. surgeon, ordered to the *Vermont* when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Phelps, J. R., asst. surgeon, detached from the *Vermont* and ordered to the *Solace.*

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 1, 1911.

Holt, John M., P. A. surgeon, reassigned to duty at Columbia River Quarantine Station, effective Sept. 14, 1910.

Smith, F. C., P. A. surgeon, reassigned to duty at Fort Stanton, N. Mex., effective Nov. 23, 1910, Jan. 27, 1911.

Delgado, J. M., A. A. surgeon, granted ten days' extension of leave of absence from Jan. 13, 1911, on account of sickness.

Townsend, F., A. A. surgeon, granted fourteen days' leave of absence from Jan. 28, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

SMALLEST MEDICAL FEES PAID BY LARGEST CORPORATIONS

By an Insurance Examiner

Five years ago the report of the New York legislative committee showing the methods of life-insurance companies produced a distinct shock to the public conscience. The next shock was to the medical conscience when the attempt was made to reduce the expense of insurance to the "oppressed" policy-holder and increase dividends to the "bloated bondholders" by reducing the fees of the medical examiner from $5 downward; a great deal was then said and written on the *subject of medical examiners' fees, until the companies* nearly all relented and, in most cases, restored the examination fees to the former low standard of $5.

There is, however, a phase of life-insurance examination with absurdly small fees, if they can be called fees at all, which has gone on without remonstrance from any source, so far as I know. This is all the more amazing because of the widespread cry of increased cost of living and the almost general insistence on increased wages in nearly all lines of service. Club contract, sick benefit and fraternal insurance examination fees have been rightly condemned by medical societies; but so-called industrial insurance, the worst economic invasion ever projected into the body politic of this country, secures examinations called "inspections" by doctors, for the munificent honorarium of 25 cents, "two dimes and a half, gentlemen, or a quarter of a dollar" per capita. These examinations require a visit to the home; inspection of hygienic, local and domestic environment; inspection of subject and antecedents, if there be any; witnessing the applicant's signature and certifying to his or her age; returning to office, copying and mailing the report to the home office—the company magnanimously furnishing the stamps and charging in the doctor's books—25 cents for the service. This by a medical graduate, a registered and licensed man, presumably in full possession of his faculties! Members of the hod-carriers' union would spurn such remuneration.

There is another form of examination, rarely demanded, for which 50 cents is paid; this is called an "examination" and also demands expert educated skill of a high degree. The booklet of instructions for either "inspection" or "examination" embraces thirty pages, and urges two-score specific topics on the examiner, requiring a finely educated visual and tactile sense, as well as an innate perspicacity to complete properly; urinalysis is not required, but that is about the only lapse from a standard blank, and the examiner gets 50 cents!

Shades of Esculapius and John Hunter! And the cost of living soaring! A young man spends eight of his best years and as many thousand dollars to get a medical education, pass a state examination and pay for it; secure a county license and pay for this, often a municipal fee is demanded that he has to pay for; he has to equip himself with all the instruments of precision now required, at great cost, maintain an office and some means of transportation; be well housed and clothed—and he gets out of the insurance companies the sum of 25—rarely 50—cents, for expert work!

The subjects are not brought to the examiner; he must seek them at their homes at hours convenient to them, regardless of the examiner's other professional or social appointments. He must make calls in the remotest regions, in suburbs and factory district, since this kind of insurance appeals only to the ignorant classes, the submerged tenth, whose earnings are dissipated by the importunities of the conscienceless insurance solicitor and the instalment collection fiend. It is estimated that so-called industrial life-insurance collects the colossal aggregate of $150,000,000 annually, a sum double that taken from all the gold mines of the United States, Alaska and the Philippines in the year 1907.

It is only this so-called "inspection" and "examination" that places the transaction outside the class of "pools." The guileless doctor lends his time and skill to this work and helps to accumulate colossal fortunes for the promoters. Strangest of all it is that the great beam of justice has not struck this kind of machination, and that public conscience has allowed the exploitation of the unguarded and helpless poor to go on unhampered. Worse still is the prostitution of our profession to such ignoble ends and pauper pay; 25 cents for a medical "inspection" and 50 cents for an educated expert's medical "examination," time and travel expense all paid by the doctor! What has become of the spirit of our medical societies that remonstrance has not been made ere this? There are very small things that need attention as well as the larger ones of state boards of health and medical national educational commissions.

The objection to industrial insurance, as conducted in the United States, is that it has been developed and managed by private individuals for private profit rather than for the laboring man and his dependents. One result is the physician who makes the necessary examinations is "sweated" for the benefit of the middleman or promoter, who to increase his own profits reduces the cost of operation to the minimum. Industrial insurance is, in many cases, the only way in which the laboring man can provide, during the period of activity, against disabling accidents and sickness. The premiums which can be paid in this form of insurance are necessarily low and must be collected on the instalment plan. In the absence of some such provision against disability, the only recourse left to the laborer or his family is charity, either public or private. The importance of industrial insurance has been generally recognized in Europe, especially in Germany, where it has been made compulsory by the state, as a precaution against poverty-stricken decrepitude or old age on the part of the laborer and overburdened charity relief on the part of the state. Industrial insurance, provided and safeguarded by the state, is a guarantee to the laborer and his family against want, and to the community against a crushing burden of pauperism and dependency. As conducted in this country, by private corporations, it is an exploitation of the workingman on the one hand and of the physician on the other, for the benefit of the middleman, the promoter. The ridiculously low "fees" paid by these companies should be spurned by any self-respecting physician and condemned by medical organizations everywhere. Properly organized and conducted industrial insurance should be encouraged, but only on condition that the fees paid for professional services are commensurate with the value of the services rendered. Industrial insurance should be for the benefit of the laborer and the relief of society. There is no reason why it should be built up at the expense of the medical profession.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

TOXEMIA, SEPTICEMIA AND PYEMIA:* Definition of each, discussing their relations to each other.

ETIOLOGY

TOXEMIA: 1. From acute infectious diseases. 2. Those demanding surgical interference; sapremia. Pathogenic and toxicogenic bacteria. Bacterial poisons, ptomains and toxins. Microorganisms usually found in surgical lesions, producing toxemia.

SEPTICEMIA AND PYEMIA: Septicemia from (1) local infection, pneumonia, typhoid, puerperal fever, fracture, traumatism, etc.; (2) cryptogenetic septicemia. Pyemia, dependent on antecedent septicemia.

PATHOLOGY

TOXEMIA AND SEPTICEMIA: Similarity of pathologic changes occurring in toxemia and septicemia. Histologic changes in tissues, effect of toxins. Microscopic changes in viscera. Gross changes in liver, spleen, kidneys, heart and blood-vessels, mucous membranes.

PYEMIA: Primary changes. Methods of entrance of bacteria into blood-stream. Factors governing site of secondary localization. Usual location of abscesses. Secondary changes.

* Pearce: Osler's Modern Medicine, ii, 647.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

The Complete Physician

An address on the subject "The Complete Physician" was given by Dr. J. George Adami, professor of pathology at McGill University, at the opening of the School of Medicine of the University of Toronto.[1] He shows that the student cannot be expected to learn all there is to know during his brief four-year or five-year medical course. In fact, the physician's entire life is devoted to learning new facts and new methods. It is the student's duty to find out *how* to proceed; he must learn the common ailments; he must know how to use modern methods of diagnosis and must understand the rational treatment of diseases, whether he is to apply that treatment himself or refer the patient to others.

To obtain this knowledge requires a training in hospitals and dispensaries, in contact with actual living patients. But he needs more than his unaided senses to gain the most from his contact with patients. He needs to understand instruments of precision, which requires a knowledge of physics; he must know the composition of body fluids and the action of drugs, which requires a knowledge of chemistry; he must understand the principles governing living matter, which requires an acquaintance with biology. A knowledge of anatomy is particularly needed. A mental picture of the viscera often conveys reasons for certain disturbances; and of course the knowledge of the parts of the body is indispensable for the *surgeon*. *Infectious diseases cannot* be understood without a knowledge of bacteriology. Of great importance also is the autopsy, by which the relation of outward signs to the actual pathologic condition is ascertained.

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[1] Saskatchewan Med. Jour., October, 1910.

Years of preparation, therefore, are needed before the student comes to the actual study of patients. This preparation requires one or two years of collegiate work and two or three years of medical study in laboratories. Then come the two years in advanced study in dispensaries and hospitals, and, finally, a year or more of intern work.

Dr. Adami lays particular stress on the development by the student of a personal sympathy for the patient. Important as is all the other training and skill in the diagnosis and treatment of disease, he counts this all for naught without the sympathetic study of humanity and the capacity to enter into their lives:

"After all, it is the old, old lesson that I have to preach to you. Though you know all the 'ologies and practice all the modern methods of diagnosis and treatment, though you know Latin, German, French, Italian, and speak with tongues of men and of angels and have not charity—do not let your hearts go out to your fellows—you are become as sounding brass or as a tinkling cymbal."

He declares that the main strength of British medical education is that it has realized the need of this sympathetic relationship and the weakness of the German medicine that it has *too largely neglected* it. He believes that the chief benefit from the addition of two collegiate years to the preliminary training is that, by the larger contact with his fellows, the student will develop this study of humanity. This experience will be largely aided by the study of the actual palpitating patient at the bedside. Lastly, it will be more completely developed in the fifth year spent in a hospital.

California August Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, August 2-5, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 151, of whom 121 passed, including 22 osteopaths, and 30 failed, including 9 osteopaths. The following colleges were represented:

PASSED

College — Year Grad. — Per Cent.

Oakland College of Medicine and Surgery (1910) 83.4, 86.4, 86.5.
University of Southern California.................(1909) 82.1
College of Physicians and Surgeons, San Francisco (1909) 76.9, 77.6; (1910) 76.8, 78.9, 84.7.
Cooper Medical College (1909) 76.9; (1910) 75.9, 77, 79.5, 80.1, 80.3, 81.5, 81.9, 82.5, 85, 85.4, 85.4, 87.5.
California Medical College, Eclectic..............(1905) 79.3
University of California (1908) 77.9; (1910) 79.8, 83.5, 85.7, 87.2, 87.3, 89.6.
College of Physicians and Surgeons, Los Angeles (1909) 78.2; (1910) 77.9, 80.4, 82.3, 82.7, 86.4, 86.6, 87.4, 90.2.
Hahnemann Medical College of the Pacific........(1910) 85.8
College of Physicians and Surgeons, Chicago (1901) 83.2; (1903) 79.8; (1906) 78.9; (1908) 88.2.
American Medical Missionary College (1900) 88.6; (1903) 82.3, 85.5; (1906) 89.8, 90.4.
Northwestern University Medical School (1908) 83.6, 84.8; (1909) 83.1; (1910) 86.8.
Rush Medical College...............(1895) 80.5; (1909) 82.2, 92.4
Louisville Medical College..........(1897) 78.8; (1905) 81.1
Hospital College of Medicine, Louisville..........(1902) 77.1
University of Iowa, College of Medicine...........(1906) 78
Tulane University of Louisiana....................(1908) 75.5
Medical School of Maine...........................(1889) 87
University of Maryland.............(1893) 83.4; (1895) 84.6
Johns Hopkins University Medical School (1908) 83.9, 89.9; (1910) 87.1, 84.6.
Harvard Medical School............................(1907) 85.7
University of Michigan, College of Med. and Surg..(1909) 80.9
Detroit College of Medicine.......................(1896) 88.1
University of Minnesota, Homeopathic Department.(1908) 79.9
University of Minnesota, College of Medicine and Surgery (1905) 77.2; (1909) 80.6.
St. Louis University...............(1906) 85.2; (1910) 80.3
Kansas City Medical College.......................(1891) 77
Creighton Medical College.........................(1906) 80.5
of Physicians and Surgeons (1905)
College and Hospital.(1906) 80
ital Medical College..(1910) 85
llege.................(1893) 84.3
......................(1892) 88.8
......................(1903) 77.4

University of Oregon..............................(1908) 75.8
Hahnemann Medical Coll. and Hosp., Philadelphia.(1909) 77.8
Jefferson Medical College.........................(1910) 88.3
University of Pennsylvania........................(1904) 82.8
Medical College of South Carolina...(1903) 84.4; (1910) 82.9
Vanderbilt University..............(1906) 84.1; (1910) 84.6
McGill University, Quebec.........................(1910) 75
Western University, London Ontario................(1906) 82.7
University of Edinburgh, Scotland.................(1909) 92.9
University of Finland, Helsingfors................(1910) 83.1
University of Turin, Italy........................(1902) 86.7
Durham College of Medicine, England...............(1910) 78.5

FAILED

Hahnemann Medical College of the Pacific........(1909) 71.6
College of Physicians and Surgeons, San Francisco (1903) 71.9; (1907) 51.6, 72.7; (1910) 69.5.
College of Physicians and Surgeons, Los Angeles...(1906) 69.2
Cooper Medical College............................(1910) 64, 72.1
California Medical College, Eclectic..............(1910) 72.4
Chicago College of Medicine and Surgery...........(1910) 70.5
Indiana Medical College...........................(1903) 72.9
University of Louisville..........................(1892) 70.6
Kentucky School of Medicine.......................(1906) 61.7
Hamline University ....(1907) 72.4
American Medical College, St. Louis...............(1898) 43.9
University Medical College, Kansas City...........(1905) 69.4
Syracuse University ....(1903) 72.1
Cleveland Homeopathic Medical College (1892) 55; (1903) 72
Jefferson Medical College.........................(1884) 76.5
University of Toronto, Ontario....................(1903) 73.2

* Fell below 60 per cent. in one or more branches.

The following questions were asked:

ANATOMY

[Answer ten questions only]

1. Name the visceral contents of the middle epigastric region. 2. Describe the changes that take place in the vascular system at birth. 3. Draw diagram showing relationship of stomach, spleen, pancreas and kidneys to the back. 4. Name the uses and supports of the arch of the foot. 5. Give the boundaries of the axilla and name its contents. 6. What are the anatomic conditions that minimize the effects of violence on the skull? 7. Describe the course of the brachial artery. At what point may it be most easily compressed? 8. Give the relations of the prostate gland. 9. Make drawing of the shoulder sufficient to show the relation of the bony points. 10. Give the sensory and motor distribution of the median nerve. 11. Give the relations of the abdominal aorta. 12. Name the chief varieties of joints and give their subdivision with an example of each of the latter.

PATHOLOGY

[Answer eight of the written questions and identify four slides]

1. What blood changes are found in simple anemia? And describe the general or systemic effects if this condition is long continued. 2. Give the pathology of chorea. 3. Describe the macroscopic and microscopic characteristics which distinguish malignant tumors or growths from those of a benign or non-malignant type. 4. Describe fully the effects and changes which result from an excess of secretion of the thyroid gland, and the effects and changes resulting from a deficiency of the thyroid secretion. 5. Describe the pathologic changes which take place as a result of chronic lead poisoning. 6. What organism is responsible for tropical or amebic dysentery? What part of the intestinal tract is principally affected, and describe the changes resulting from the disease? 7. What are the principal causes of the ordinary summer diarrhea or dysentery of children, and describe the condition of the intestinal tract usually present? 8. What conditions most frequently give rise to cerebral thrombosis; what part of the brain is most likely to be affected, and what blood-vessels most likely to be involved, and why? 9. In imperfect closure or insufficiency of the mitral valve of the heart describe, in the order of their occurrence, the changes which take place in the heart and blood-vessels and the resulting pathologic condition in other parts of the body. 10. Describe the condition of the lung in cases of delayed resolution in croupous or lobular pneumonia, and what is the usual ultimate result if not relieved. 11. Identify two slides. 12. Identify two slides.

HISTOLOGY

[Answer ten questions only]

1. Make a diagram of a transverse section of the spinal cord showing white and gray matter, position of motor and sensory roots of spinal nerves, central canal and principal motor cells. 2. Describe the muscular coats of the esophagus. 3. Name the various forms of encapsulated sensory nerve-endings. 4. Describe minutely a medullated nerve fiber. 5. Describe the blood-supply of a hepatic lobule. 6. Describe a renal Malpighian corpuscle. Make drawing. 7. Name two cells typical of the human cerebellum. Give short description of each and make drawings. 8. Tell how you would distinguish a transverse section of the duodenum from a longitudinal section of the transverse colon. Make diagram. 9. Name the blastodermic layers from which the following tissues and organs are formed: (*a*) enamel of the teeth; (*b*) finger-nails; (*c*) urinary bladder; (*d*) pancreas; (*e*) lymph nodules of the intestines. 10. What is meant by the following terms: (*a*) Haversian canal; (*b*) osteoblasts; (*c*) osteoclasts; (*d*) lymphocytes; (*e*) eosinophils? 11. Examination of slides. 12. Examination of slides.

CHEMISTRY

[Answer ten questions only]

1. Define alkaloid. Name five alkaloids commonly used in medicine. 2. How much of the following ingredients will be found in the urine of an adult who passes 1,500 c.c. of normal urine daily: (*a*) urea, (*b*) chlorids, (*c*) phosphates? 3. What is a chemical symbol? Give the symbols of ten elements. 4. Give the composition of properties of and tests for sulphuretted hydrogen, and mention any chemical agencies by which its offensive odor may be

removed. 5. How is formaldehyd prepared? In what forms is it used as a disinfectant? 6. What is the composition of butter? Describe a good method of determining the volatile fatty acids in a sample. How does this assist you in deciding the question of adulterations? 7. What are the respective alcoholic strengths of beer, claret, sherry, gin, whisky? 8. Name the solids contained in normal blood. What proportions do the solids bear to the water in the blood? 9. Give the composition of starch, cane-sugar, grape-sugar and sugar of milk. Calculate the number of grains of carbon present in 1,000 grains of starch and cane-sugar, respectively. 10. What is ozone? Is there any real evidence of its presence in the atmospheric air? What other substances give similar actions? Has its presence or absence any sanitary importance? 11. How would you recognize each of the following gases, chemically, when mixed with air: Carbon monoxid, sulphur dioxid, sulphuretted hydrogen and hydrochloric acid? 12. How would you detect the presence of tartaric acid in lemon or lime juice?

PHYSIOLOGY

[Answer ten questions only].

1. Describe the phenomenon of muscular tone. 2. What is the chemical theory of fatigue? 3. What is the difference in the paralysis from injury to the spinal and the pyramidal neurons, respectively? 4. Name four sensory qualities of cutaneous nerves and tell how they are distributed in the skin. 5. What is the function of the Eustachian tube? 6. What normal conditions produce a variation in the number of red-blood corpuscles? 7. Mention four factors concerned in producing normal pressure and velocity of the blood. 8. What physical changes take place in respired air? 9. What conditions affect the action of ptyalin? 10. What is the general physiologic importance of bile? 11. What is the physiologic rôle of the adrenals? 12. Mention four ways by which the body loses its heat.

BACTERIOLOGY

[Answer ten questions only]

1. Explain how diphtheria antitoxin is made. 2. Give two methods of producing immunity (active). 3. What is a bacterial vaccine? How does it act? 4. Give positive tests distinguishing gonococci from other cocci. 5. Describe in detail a method of staining tubercle bacilli. 6. Name five pus-producing organisms. 7. Explain how pus is produced by germs. 8. Give two methods by which *Bacillus typhosus* may be distinguished from *Bacillus coli communis*. 9. Show by drawing appearance under the microscope of the following: *Spirochæta pallida*, *Bacillus diphtheriæ*, *Bacillus pestis*, *Bacillus tetani*, *Amœba coli*. 10. Describe cause and usual method of entry of epidemic cerebrospinal meningitis. 11. What is meant by Widal's reaction? Describe two methods of doing it. 12. Describe the different methods by which bacteria propagate. Give three.

OBSTETRICS

[Answer ten questions only]

1. Between what points are the four measurements taken in external pelvimetry? 2. How is the pelvic inlet bounded? 3. What are the anomalies calling for cephalic version? 4. In mammary abscesses what is the usual source of infection and how can it be prevented? 5. Give the etiology and diagnosis of phlegmasia alba dolens in the puerperal state. 6. In breach presentations, occiput anterior, in what position would you place the body of the child in the application of forceps to the after-coming head? 7. Describe hyperemesis and its dangers. 8. Give the symptoms and diagnosis of puerperal septicemia? 9. What are the causes of secondary [illegible] Describe the "Braxton-Hicks" method [illegible] previa. 11. What are the causes [illegible] or? 12. Describe polyhydramnos and its dangers.

GYNECOLOGY

[Answer ten questions only]

1. What is the menopause? Its physiologic establishment? What are the especial dangers of this period? 2. What are the causes of hemorrhage of the non-pregnant uterus, other than menstruation? 3. Diagnosis of uterine fibroids. What pathological change often takes place? Prognosis. 4. Acute pelvic peritonitis, causes and symptoms. 5. What is the differential diagnosis between ascites and ovarian cyst? 6. What is amenorrhea, its causes and dangers? 7. What are the symptoms and management of imperforate hymen, with prolonged retention of secretion? 8. What is chronic endometritis, etiology and symptoms? 9. Early diagnosis of cancer of the uterus. What are operable cases? At what period in a woman's life is it most liable to occur? 10. Urethral caruncle, diagnosis and symptoms. 11. Hematoma of the vulva, symptoms and diagnosis. 12. Specific vaginitis, symptoms, diagnosis, and complications.

GENERAL DIAGNOSIS

1. Give the causes of enlargement of the liver and describe atrophic cirrhosis of the liver in detail. 2. Differentiate tetanus from hydrophobia. 3. Name the different varieties of casts found in the urine and what is the significance of each. 4. Give the symptoms of multiple sclerosis. 5. Give the symptoms and signs on which you would diagnose a typhoid intestinal perforation. 6. Differentiate variola from varicella. 7. Describe an attack of acute appendicitis. 8. Describe an attack of acute pericarditis. 9. Give the causes and physical signs of ascites. 10. Differentiate iritis from glaucoma. 11. Give the relations of the abdominal aorta; diagnose a fracture through the neck of the femur. 12. Describe the symptomatic development of a severe hemorrhage which presses on the upper one-half of the fissure of Rolando following a blow on the head.

HYGIENE

[Answer ten questions only]

1. What deleterious gases accum[illegible] ntilated rooms? 2. What diseases may be [illegible] water? How may the impurities in water be [illegible] ir methods used in communities for the disposal of sewage and describe one method. 4. Outline a rational method by which the condition of milk supplied to a community might be materially improved. 5. Name four diseases which may be transmitted by milk. 6. Name four diseases that may be transmitted by the eating of diseased meat or fish. 7. What is the germ theory of disease? What laws were made to prove this theory? 8. What is an endemic disease? An epidemic disease? A miasmatic disease? A sporadic disease? 9. What are deodorants? Antiseptics? Germicides? 10. With what is ground coffee said to be frequently adulterated, and how may the adulterants be detected? 11. With what is vinegar sometimes adulterated, and how would you test for the adulterant? 12. How may the presence of lard in olive oil be detected?

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 14-17, 1910. The number of subjects examined was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, at Philadelphia, the total number of candidates examined was 95, of whom 79 passed and 16 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of Colorado	(1909)	1
Howard University, Washington, D. C.	(1907) (1909)	2
Georgetown University	(1910)	3
Atlanta School of Medicine	(1910)	1
Indiana University	(1910)	1
Kentucky University	(1906)	1
University of Louisville	(1910)	1
Johns Hopkins University	(1909)	1
Baltimore Medical College	(1910)	4
[illegible]	(1909) (6, 1910)	7
[illegible] rgeons, Baltimore	(1910)	4
[illegible]	(1910)	1
[illegible]	(1910)	1
[illegible]	(1905)	1
[illegible] of Physicians and Surgeons	(1906) (1907) (1909)	3
Temple University	(1910)	4
Jefferson Medical College	(1902) (1906) (2, 1909) (9, 1910)	13
University of Pittsburg	(1909) (3, 1910)	4
University of Pennsylvania	(1895) (1907) (2, 1908); (1909) (5, 1910)	10
Medico-Chirurgical Coll., Philadelphia	(1909) (6, 1910	7
Woman's Medical College of Pennsylvania	(2, 1909) (2, 1910)	4
[illegible]	(1910)	1
[illegible] ntreal	(1907)	1
[illegible] Ontario	(1902) (1909)	2
Queen's University, Kingston, Ontario	(1910)	1

FAILED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	70.2
University of Louisville	(1910)	72.7
Maryland Medical College	(1910)	23.7, 63.3, 64.5, 70.4.
Baltimore Medical College	(1910)	65.5
University of Maryland	(1910)	72.4
University Medical College, Kansas City	(1903)	46.8
Leonard Medical School	(1909)	73.4
Medico-Chirurgical College, Philadelphia	(1909) (1910)	73.9; 61, 72.6.
University of Pittsburg	(1910)	72.5
University of Pennsylvania	(1910)*	....
Meharry Medical College	(1910)	68.5

* Expelled from examination.

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 5, of whom 4 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Cleveland Homeopathic Medical College	(1910)	1
Hahnemann Medical College and Hospital, Philadelphia	(1904) (2, 1910)	3

FAILED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	61.4

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 12, of whom 11 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Maryland Medical College	(1907) (3, 1910)	4
Atlantic Medical College	(1908)	1
Baltimore University	(1905)	1
Eclectic Medical University, Kansas City	(1910)	1
St. Louis College of Physicians and Surgeons	(1906)	1
Medico-Chirurgical College, Philadelphia	(1910)	2
Temple University	(1910)	1

FAILED

College	Year Grad.	Per Cent.
Baltimore University	(1903)	72.1

Book Notices

A MANUAL OF PHARMACY FOR PHYSICIANS. By M. F. DeLorme, M.D., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition. Cloth. Price, $1.25 net. Pp. 199, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

The author in this book has made the laudable effort "to provide a small concise text-book, presenting only those facts of the subject having interest for the medical practitioner." He has paid special attention to prescription Latin. One of the reasons assigned by most authors for the use of Latin in prescriptions is that "Latin is a dead language and not subject to change." Our author, however, evidently believes that it can be improved by changing its time-honored rules. With the intention of making it so simple that any student by learning a few improved rules can write correct Latin, he tells his readers that all Latin nouns ending in "a" form their genitive in "æ," that adjectives end in "us" and form a genitive in "i" and that, as the genitive is the only case in which the physician is interested, in the text of Part II all nouns will be put in the genitive case. It is interesting to see how these simple rules work. The author is iconoclastic enough to apply them to the utter demolition of the ancient grammar. For instance, we learn that the genitive of "Cataplasma" is "cataplasmæ" (old form "cataplasmatis"), that the prescription term for "distilled water" is "aquæ destillati," that for "monobromated camphor" we should write "camphoræ monobromati." Other examples are "cretæ camphorati," "tincturæ valerianæ ammoniati," etc. While the author admits that, theoretically, other cases may be used in writing a prescription, "as in prescribing an official pill, when the accusative case is employed," he considers that the "almost universal practice of abbreviating the noun 'pilulæ' (pil.) makes this exception of small practical moment and justifies its dismissal." Accordingly, the accusative disappears and we read "Divide in pilulæ no. x," "Div. in capsulæ no. iv." The ablative is no longer of use. So the author allows "cum" to govern the genitive: "Pulveris Potassii Bromidi Effervescens cum Caffeinæ N. F." In this case, zeal in carrying out his scheme caused the author to forget the genitive of "effervescens," which is not provided for by the simplified rules. But, strange to say, he writes "℞ Carbo animalis," although he has informed his readers a few pages before that "carbo" has a special genitive "carbonis."

The effort to put all nouns in the genitive imposes too great a burden on one devoted to simplification, and hence the student finds a jumble of nominatives and genitives, plurals and singulars, with an occasional instance in which, following the custom of older writers, the author has allowed the accusative or ablative to appear in strict accordance with grammatical rules. The lesson from this seems to be that we should either learn to write Latin correctly or dodge the difficulty by cutting off the endings in all cases. When an author and teacher cannot produce a set of fifteen typical prescriptions without 40 per cent. of them containing more or less serious errors, what can be expected of a student ignorant of Latin who tries to follow his directions?

The influence of such a book is vicious.

BIER'S TEXT-BOOK OF HYPEREMIA AS APPLIED IN MEDICINE AND SURGERY. By Prof. Dr. August Bier, of Berlin. Only authorized translation from the sixth German revised edition by Dr. Gustavus M. Blech, Professor of Clinical Surgery, Illinois Medical College. Cloth. Price, $4. Pp. 439, with 39 illustrations. New York: Rebman Company, 1910.

This is a fascinating work of some 400 pages. Once having begun, one is tempted to read every word and then reread many sections, so earnestly and convincingly has the writer presented his topic to his readers. The text does not lend itself well to abstracting; it must be taken as a whole to be properly appreciated.

While the list of conditions treated and the benefits obtained at first appear rather appalling and arouse the most natural medical emotion of prejudice against something different, yet a careful survey of the author's discussion and skilful employment constantly tends to allay the natural bias and to bring the reasonableness of the procedure in the conditions to which it is adapted. The chapters on theory are interesting and instructive, reminding one, in their character and clearness, of Adami's charming little volume on "Inflammation." Bier's experience, like that of many others, emphasizes the fact that the more fundamental a truth and the broader its application, the greater is the difficulty in getting its general acceptance.

It is difficult, however, for us to accept many of the practical applications in conditions that we are wont to treat otherwise and we still remain in the critical attitude of wanting "to be shown." For instance, in the treatment of tuberculous joints Bier says, "I now declare it to be the best conservative agent at our command, which, with the least risk, simply and cheaply achieves results, especially as far as the function of the diseased joints is concerned, to which none of the other methods of treatment can even approximately approach. It must be added that at the same time it is the most agreeable of them all because it removes the pain from the patient without causing him new ones, in addition to leaving him the most perfect use of his limb." In concluding his work, he says, "I believe that the practical application represents the most general method of cure which exists, for I know of no other remedy which can be successfully employed in so great a variety of diseases."

The book is of convenient size, printed with clear type on good paper, and the translation well worthy of the text.

CLINICAL COMMENTARIES DEDUCED FROM THE MORPHOLOGY OF THE HUMAN BODY. By Prof. Achille De-Giovanni, Director of the General Medical Clinic, University of Padua. Translated from the second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H., Cambridge. Cloth. Price, $4.50. Pp. 436, with illustrations. New York: Rebman Company, 1910.

The title does not convey a clear idea of the subject-matter of this work, for it deals not with the form and structure of the human body as such, but rather with the relations which exist between the special morphology of the individual and his particular morbidities. The author assumes that modern morphology dictates the maxim that "function creates the organ" and as a natural consequence of this that "function reveals the anatomic conditions of the organ." He then formulates two principles expressed as follows:

1. "The cause of the special morbidity of organisms resides in their special morphology."
2. "The same principle which explains the formation of the organs, of the organisms and their function, explains the anomalies of form and of function that the organisms present during the periods of life."

The first part of the book is devoted to an attempt to justify the above principles. The second is more concrete and practical; in it the author elaborates his system of measurements of the body, based on which he subdivides individuals into three principal groups or classes, which he calls morphologic combinations. Each morphologic combination is supposed to exhibit certain morbidities, but there are almost innumerable varieties of each of the three principal combinations.

The author is given too much to theorizing, and, as is usual in such cases, his ideas are frequently clothed in such a superfluity of words as at times to defy analysis and thus to be meaningless. Possibly the translator may be responsible occasionally for a small part of this obscurity by a too literal translation. Yet, notwithstanding these numerous defects, a careful perusal of the book cannot fail to convince the reader that the author is possessed of an idea which contains more than a germ of truth and which is capable of much development by further observation and study.

CLINICAL PATHOLOGY IN PRACTICE. With a Short Account of Vaccine-Therapy. By Thomas J. Horder, M.D., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. Cloth. Price, $3. Pp. 216, with 6 illustrations. New York: Oxford University Press, 1910.

This work takes up the various diagnostic measures of clinical pathology. An account is given of the proper technic for securing materials; but the laboratory procedures used in the examination are intentionally omitted. The author discusses the conditions in which such measures are advisable, and the interpretation of the results obtained with them;

titioner who limits his work still further to the pathology of affections comprehended under the title of the book. Except for the suggestion of a great many proprietary preparations, it is a satisfactory and useful book.

A Short Handbook of Cosmetics. By Dr. Max Joseph, Berlin. Third Edition. Authorized English Translation. Cloth. Price, $1. Pp. 86. New York: E. B. Treat & Co., 1910.

This book does not enter into the pathology of affections of the skin, hair and nails, but simply describes their general care by means of hygiene, water, soaps, lotions, ointments, creams, paints, etc., giving formulas for many such preparations, many of which seem to have proprietary names. One receives the impression that this is a book for the laity rather than a guide to the general practitioner or specialist in this branch of dermatology.

Medicolegal

Validity of Statutes Forbidding Advertising for Patients and Special Ability to Treat or Cure Chronic and Incurable Diseases—Chronic and Incurable Defined—Consultation of Medical Works by Boards

The Supreme Court of Arkansas, on the appeal of the State Medical Board of the Arkansas Medical Society vs. McCrary (130 S. W. R. 544), a suit brought by the latter party to enjoin the board from taking action in the matter of revoking his license to practice medicine, reverses a decree granted him, and dismisses his complaint for want of equity. It does not agree with his contention that his license to practice medicine was a property right, the revocation of which was an exercise of judicial power, which could not be vested in any administrative board, but only in the courts, and that to assume to invest this power in the board was to deprive him of his property without due process of law, in violation of the state constitution.

But the most difficult question in the case to determine, the court says, was raised by the contention that subdivision d of section 8 of Act 219, of the Arkansas General Assembly, approved May 6, 1909, which authorizes the board to revoke the license of a physician for "publicly advertising special ability to treat or cure chronic and incurable diseases," is too vague and indefinite to be upheld and enforced. This has given the court the gravest concern, and, after due consideration, the court has decided to uphold the provision. The court's attention was not called to any case in which a statute of similar import has become the subject of judicial determination. Counsel for the complainant relied on cases where statutes authorizing the Board of Medical Examiners to revoke the certificate of a physician for making "grossly improbable statements," or for "unprofessional or dishonorable conduct," have been held void, as being unreasonable, too uncertain and indefinite. Hewitt vs. State Board of Medical Examiners, 148 Cal. 590; Matthews vs. Murphy, 23 Ky. Law Rep. 750; Czarra vs. Board of Medical Supervisors, 25 App. D. C. 443.

On the other hand, there are cases upholding statutes empowering boards to revoke the licenses of physicians, who are guilty of unprofessional and dishonorable conduct, and the licenses have been revoked or not, according to the proof made. State ex rel. Feller vs. Board of Medical Examiners, 34 Minn. 391; McComber vs. State Board of Health, 28 R. I. 3, and the case note to Hewitt vs. State Board of Medical Examiners, 7 Am. & Eng. Ann. Cas. 750, indicate that the weight of authority is to this effect. But this court need not decide that question; for it holds that the language of subdivision d in question is not too uncertain and indefinite to be upheld and enforced. In the case of Thompson vs. Van Lear, 77 Ark. 506, this court held that an act forbidding physicians and surgeons to solicit patients by paid agents was a valid exercise of the police power. For like reason, a statute forbidding a physician to advertise for patients in newspapers would be upheld; and, by analogy, a statute forbidding them to advertise their ability to treat and cure certain named diseases would be a valid exercise of the police power.

While the particular disease against which the prohibition of the statute is directed is not named, as was the case of Kennedy vs. State Board of Registration in Medicine, 145 Mich. 241, yet the words "chronic and incurable," when used with reference to diseases of the body, are not variable, but have a settled and generally accepted meaning. The word "chronic" is the antithesis of "acute," and a chronic and incurable disease is generally understood to be one of long standing, deep-rooted, obstinate, persistent, and unyielding to treatment. On this account those afflicted with such diseases become discouraged, and to an extent desperate, and more easily become the prey of conscienceless and unscrupulous practitioners in the medical profession. Such diseases are specifically named and discussed in standard medical works, and are known to all physicians, who may possess a sufficient knowledge of their profession to practice the art of healing, as chronic and incurable diseases. For the board to consult these standard medical works would not be to use them as evidence as contended by the complainant, but such act would be rather done as an aid to the memory and understanding of the members of the board. See State vs. Wilhite, 132 Iowa 226, 11 Am. & Eng. Ann. Cas. 180, and case note.

Criminal Abortion—Proper Cross-Examination of Expert

The Supreme Court of Arkansas affirms, in Davis vs. State (130 S.W.R. 547), a conviction under the statute of that state which provides that "It shall be unlawful for any one to administer or prescribe any medicine or drugs to any woman with child with intent to produce an abortion or premature delivery of any fetus before the period of quickening." It says that the felony thus created by the statute consists in the criminal act of administering or prescribing medicine to the woman with child with intent to produce an abortion. An abortion is the delivery or expulsion of the human fetus prematurely. There must be an intent to cause the abortion without lawful reason, and this must be accompanied by the unlawful act of administering the drug. In the case of State vs. Reed, 45 Ark. 333, it was held that under this statute the indictment must allege that the criminal act of administering the drug was done "before the period of quickening;" that is, the time when the overt act must be committed, and when that act is accompanied by the intent to produce an abortion, the crime is complete. The criminal intent consists in the design to cause an abortion, whether it shall result before or after the period of quickening. The intent becomes criminal by reason of the unlawful design for which the medicine is administered; and when the medicine is administered with this unlawful design, the act becomes criminal without the necessity of any other or further intent. The criminal act under this statute was complete when the drug was administered "before the period of quickening," for the purpose of causing an abortion; that is, with the intent of causing a delivery or expulsion of the human fetus prematurely. The indictment sufficiently made this charge, and it was not necessary also to charge that the drug was administered for the purpose of causing a delivery or expulsion of the human fetus before the period of quickening.

The court also holds that it was proper, on cross-examination, to ask a medical witness the question: "Assuming that a woman had been criminally intimate with a man for quite a while, and that you received information that she was in a family way and that an abortion was to be produced and you were called to see her, and found her suffering with a dilated os, these hemorrhages, and the breasts as mentioned, and if you found softening of the lower vagina with pains bearing down, in your opinion, what would be the matter with her? How would you diagnose that?" The court says that, if it should be considered that this question was propounded to the witness for the purpose of obtaining the opinion of a witness on a hypothetical question, it was competent because it was based on facts as proved before the jury. It was also competent for the reason that it consisted of the cross-examination of an opposing witness, and its purpose was to test his competency as an expert, as well as to affect his credibility as a witness.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Dec. 16, 1910

The President, Dr. Charles B. Parker, in the Chair

Locomotor Ataxia and Result of Specific Treatment

Dr. Frank Billings, Chicago: In 72 out of 100 selected cases of tabes, the disease occurring between the ages of 40 and 60, the youngest patient being 29 and the oldest 70, the patients admitted having had syphilis. A Wassermann was done on twelve others and was positive in ten. Sixty-nine of the seventy-two remembered the date of infection, and 66 per cent. had their first symptom in from ten to twenty years after luetic invasion. The early symptoms, in order of frequency, were the lightning pains, alteration of knee-jerk, absence of pupillary phenomenon, paresthesias, uncertainty of equilibrium and disturbance of bladder. The lightning pains were present in ninety-six of the patients and in two were present for years before other symptoms appeared. The Argyll-Robertson pupil was found in ninety-two, and in only one case was the pupillary reflex normal. Pupils were irregular in about half the cases, and at first examination the eye-grounds were normal in all but four. Knee-jerk was absent or weak in eighty-eight patients, and the Achilles reflex was also frequently changed. Bladder disturbance was one of the most notable early symptoms—in some cases there being pains of the character of crises. Disturbance or retention of urine occurred in sixty cases. Romberg's phenomenon was nearly always present. Visceral crises were present in twenty, and of these thirteen were in the form of gastric crises. It is interesting to note that nine of these had been operated on for calculous cholecystitis. I have kept in touch with forty-three of these patients; five are dead; two are dying of paresis; six are worse, while thirty-two are improved. Treatment consisted of deep intramuscular injections of mercury in all but three. The following injection was generally employed:

℞

			gm. or c.c.
Hydrargyri chloridi corrosivi			
Phenolis	āā	gr. xv	1
Sodii chloridi		gr. xxx	2
Aquae destillatæ		℥ ij	60

Ten or twenty minims were injected deeply into the gluteal muscle for twenty or twenty-five times, within a period of two months. The patient should be kept in bed during the injection treatment, as one can then give an injection every day or every second day. If the patient is up and about, he can take an injection only once or twice a week. Injection series may be repeated after three or four months, using potassium iodid, grains 10 to 20, three times a day, for two or three weeks in every month in the interim—beginning ten days or two weeks after the last injection. Tobacco and alcohol must be prohibited, and the patient should have massage, light exercise and Frenkel's reeducative movements.

DISCUSSION

Dr. J. H. Lichty: I am treating five tabetics, but in all of them the Wassermann is negative. I agree with Dr. Billings as to the use of hydrargyrum. Three of my patients have improved under the use of hydrargyrum-cyanid injections. One of these has had tabes for fourteen years, and until the past year has taken hydrargyrum continuously, by the mouth, without results. Lately I have been using it hypodermically, and the patient is improving.

Dr. W. B. Laffer: My results in the treatment of tabes have not been so good as Dr. Billings, as far as the use of hydrargyrum is concerned. I get the best results from hygienic precautions and Frenkel's reeducative movements.

Dr. Oscar T. Schultz: Does a positive Wassermann in a case of tabes mean that there is an active luetic process present? I think not, but believe it may be due to products of nerve tissue degeneration. For this reason, I believe we usually get a positive Wassermann in a case of leprosy.

Dr. Dexter: Out of fifteen sero-diagnoses of tabes lately done there were 65 per cent. of positives.

Dr. Frank Billings: Of twelve of my cases on which the Wassermann was done, ten were positive. It is my experience that a positive Wassermann becomes negative after eighteen to twenty deep injections of hydrargyrum; later it becomes positive again. It is only after repeating such a series of injections two or three times that the Wassermann remains negative. I repeat my series of injections from three to four times or more, if required; giving iodids between series. I have used sodium cacodylate very little in the treatment of tabes, and believe it to be of little value. However, I think that in cases of chorea, some cases of pericarditis with effusion, and certain cases of pleural effusion, it is of value, given in 5 to 10 grain doses, hypodermically, every twenty-four hours.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Jan. 4, 1911

The President, Dr. George deSchweinitz, in the Chair

Salvarsan in Syphilis

Dr. Judson Daland: A study of this treatment seems to show that we have in it a remedy with a definite and very distinct influence on syphilitic processes, primary, secondary, tertiary and congenital. There is evidence also that the influence varies in different cases. In cases in which the disease is not definitely localized, the intravenous method of treatment gives the best results. Relapses have occurred in from 5 to 15 per cent. of cases.

Results from the Use of Salvarsan in Syphilis

Dr. Jay F. Schamberg: Nineteen patients were treated with salvarsan—eight subcutaneously and eleven intravenously. Of the patients with secondary syphilis treated subcutaneously, one was freed of eruptive manifestations by two injections. In one the eruption has disappeared, but the disease is obviously not cured. In two cases the treatment failed. One late ulcerating syphilid of the lip was cured. Among the cases in which no improvement was noted were one case of tabes. In one case of cerebral syphilis the result was indeterminable. In one case of spinal syphilis improvement was rapid. Of those treated by intravenous injections one paretic patient was not improved, and one improved; in one of tabes improvement was alleged by physician; one case of secondaries was free of recurrence at the end of sixty days; in one case of secondaries there was a suspicion of recurrence after forty days. One patient with semimalignant late secondaries was free of symptoms when last seen. In three cases of late secondaries, mouth lesions healed. In one case a gummatous ulcer of leg healed. In one case, the initial lesion is healed to date. In our experience the intravenous injections have produced a more prompt response to treatment and have exerted a more permanent beneficial effect than the subcutaneous treatment. Ehrlich's latest advice is to inject intravenously and follow this in some days by a subcutaneous injection.

Intravenous injections are usually painless, but are followed, as a rule, by nausea, vomiting and by brief moderate fever. In three patients there was severe pain; in three, moderate, and in three, little or no pain. An infiltrative tumefaction, tender to touch, slowly subsiding in the course of several weeks, developed in practically all of the cases. The results obtained in these cases with salvarsan could, in large part, have been achieved more slowly with mercury. It must be remembered, however, that the successful treatment of syphilis consists in more than the mere effacement of cutaneous and mucous membrane manifestations. Ehrlich and others have shown that salvarsan has a greater spirillicidal value than any known remedy. As to the duration of effect, no one is in a position to speak dogmatically at the present day. Ehrlich's hope of a *therapia sterilisans magna*—a cure at one stroke—is certainly not realized, save possibly in exceptional instances, but those who are disappointed in this must not conclude that a great therapeutic advance has not been made.

DISCUSSION

Dr. Frank Crozer Knowles: There are several insurmountable difficulties in the use of salvarsan, except in selected cases, unless the technic can be simplified and the dangers lessened. First, the use of the drug should be preceded by careful examination of the organs and vascular system and of the inner structure of the eyes. Second, the preparation of the drug for injection requires, if the Wechselmann method is used, approximately one hour; if the simpler technic of Lesser is employed, about one-half hour. Third, it is almost essential that patients treated by this drug should be kept *in bed for several days to prevent either serious discomfort* or complications. Moreover, the remedy is not infallible, as was at first thought. While salvarsan is an important aid in the treatment of syphilis, it will not, in my opinion, displace mercury in the cure of this disease.

Dr. H. M. Christian: My experience with salvarsan has been limited to about seven cases. The first case was one of tertiary syphilis, with a necrotic gummatous ulcer at the ankle, of about two years' standing. The man was injected in the gluteal region about six weeks ago. The ulcer healed within ten days and the man gained in weight from 15 to 18 pounds. He had been taking mercury and potash for over a year. The next case was one of chancre, which had resisted all ordinary methods. One dose of salvarsan was given. The temperature ran to 103-104 F. for two nights and then dropped to normal. In a week the ulcer was entirely healed. One case of acute roseola with sclerosis of a chancre was not much affected. In a case of papulosquamous eruption, the eruption has almost entirely scaled off. In all these cases the Wassermann reaction was positive.

Dr. S. Solis Cohen: There is a peculiar psychic effect of salvarsan. A colored man, much emaciated, was admitted to the hospital on account of enlarged liver. There was a perforation of the palate extending through the bone as well as the mucous membrane, and a gumma in the neighborhood of the sternoclavicular articulation which was giving considerable pain. Eight-tenths of a gram of the neutral solution was injected into the muscles of the back. The pain of the gumma disappeared within a couple of days, and all other external evidence of disease disappeared. The Wassermann reaction, however, has remained continuously positive for some twelve weeks. The patient feels well; his appetite has been good and he has gained in weight. A curious fact is that daily and careful examinations of the urine have failed to reveal arsenic. The feces, unfortunately, were not examined.

Dr. Judson Daland: Because of a large number of relapses reported in Berlin, it has been decided definitely that the method of administration should be changed from the intramuscular to the intravenous. The intravenous dose for a male adult should not be less than 0.5 gm. More than 1 gm. has been given intravenously without ill effect. It is well to follow the advice of Ehrlich to employ the alkaline solution in all intramuscular injections. The point that Dr. Cohen made regarding the urine being arsenic-free, I cannot explain. Most of the reports show that arsenic remains in the urine for from ten days to two weeks or longer, and has been found in the fecal discharges for about the same length of time. When given intravenously, the arsenic is supposed to disappear from the urine in about four days, but recent observation shows that it persists much longer.

Dr. J. F. Schamberg: Regarding the value of this particular remedy, opinion must depend largely on the point of view. Those who were led to expect a cure at one stroke doubtless experience a feeling of disappointment. Those, however, who recognize that *we have had introduced into our therapeutic* armamentarium a drug of marvellous immediate value, cannot but feel that a great advance has been made. Doubtless, many cases of syphilis will require a repetition of treatment by this drug. At the present time salvarsan has its chief indication in those cases which resist mercury and iodid. It is, perhaps, fortunate that there is a halt in the exuberant enthusiasm excited by Ehrlich's announcement, for this may retard injudicious haste in the use of the drug by unqualified persons and in unsuitable conditions. At present, given a robust individual, with early syphilis, who desires treatment, it seems to me that we are perfectly justified in using it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

January 28

1 *Personal Experience with a Very Restricted Diet (Rice) in Acute Inflammatory Disease of the Skin. L. D. Bulkley, New York.
2 Surgical Aspects of Filariasis. C. F. Stokes, U. S. Navy.
3 *Camphor in Large Doses in Pneumonia. L. Weber, New York.
4 Infant Mortality in New York City. W. C. Phillips.
5 Concealed Chancre of the Male Urethra. C. M. Whitney, Boston.
6 *Treatment of Peritonitis Consecutive to Appendicitis. J. J. Buchanan, Pittsburg, Pa.
7 Inebriety, Its Treatment and Curability. T. D. Crothers, Hartford, Conn.

1. This article also appeared in the *British Medical Journal*, Sept. 24, 1910.

3. **Camphor in Pneumonia.**—Of a freshly prepared solution, 20 per cent. camphor in oil of sweet almonds, Weber injected two hypodermic syringefuls into the outer circumference of the thighs every hour until eight had been given each day, representing altogether about 30 grains of camphor a day for four days. The patient recovered promptly, although at first there could be no doubt but that the patient would shortly die unless given some pneumococcus serum, or vaccine, or chemical antitoxin which would help her to overcome an infection against which her constitution could not prevail.

6. Abstracted in The Journal, Nov. 19, 1910, p. 1837.

Boston Medical and Surgical Journal

January 26

8 *Herbert Leslie Burrell, M.D. (1856-1910). In Memoriam.* E. H. Bradford, F. S. Watson and G. H. Monks, Boston.
9 Time and Method for Prostatectomy. B. Tenney, Boston.
10 Medical Problems of Alcoholism. I. H. Neff, Foxborough, Mass.

New York Medical Journal

January 28

11 *Nervous Affections and Adjustments of the Eyes. G. T. Stevens, New York.
12 *Carcinoma of the Ileum with Unusual Symptoms. A. Bassler and J. P. Grant, New York.
13 Dietary Studies in Institutions for Tuberculous Patients in the State of Colorado. C. D. Spivak, Denver.
14 Treatment of Septic Endometritis. H. Weil, New York.
15 *Direct Lavage of the Duodenum. M. H. Gross, New York.
16 When Sedatives are Tonic. W. F. Waugh, Chicago.
17 *Roentgen-Ray Therapy in Malignant Lesions. J. von Rudis-Jicinsky, Cedar Rapids, Iowa.
18 Typhoid Complicated by Double Parotiditis. R. E. Coughlin, Brooklyn, N. Y.
19 Abuse of Urethral Instrumentation. G. Greenberg, New York.

11. **Nervous Affections and the Eyes.**—Attention has frequently been directed by Stevens to the important relation which exists between the habitual pose of the body, as well as the muscular expression of the face, and the peculiarities in the adjustment of the eyes within the orbits. In this paper he considers two forms of chronic spasm, one affecting the muscles of the neck, the other those of the face, which in their established and typical forms cannot be said to be subject to the influence of ordinary forms of medical treatment, and to which both surgical and electrotherapeutic treatment have most frequently been directed in vain. Stevens treats these patients through the eyes, and he reports several cases. Notable relief in each case not only followed, but was the direct result of the more or less complete correction of the maladjustments of the eyes. *It is reasonable, then, he says, to* attribute to bad adjustments the extreme conditions of spasm. He believes that such spasmodic conditions as these are, in a more direct sense, the result of habitual excessive tension of the affected groups of muscles, this excessive tension arising from certain habitual body poses or from certain facial expressions, all in the interest of compensation for, or correction of, the unfavorable adjustment of the eyes.

12. **Carcinoma of the Ileum.**—The report of the case under the author's observation is of interest for the following reasons: (1) Whether an attack of typhoid (the ulceration in which is mostly in the ileum) may have had to do with the

development of carcinoma at some local site of cicatrix formation of the healed typhoid ulcer; (2) the fact that there had been no vomiting in the course of the ulcer growth, this being possibly of eighteen months' duration, and being particularly of interest when the degree of peristalsis present in the case so strongly suggested a marked stenosis in the small intestine, and the fact that the first vomiting spell was fecal in type; (3) the marked degree of visible peristalsis which could be traced from the ileum up and which required the additional force of the stomach to drive the contents in the small intestine through the strictured ileum; the good condition of the general body, considering that the cancer was far advanced; (4) the operation of lateral anastomosis of the middle ileum (which is very movable) with the ascending colon (which is fixed) in such a way as to have an anchored receiving part of the union to which a very movable viscus (ileum) could accommodate itself as may be called for in its function, rather than to have joined the ileum to the sigmoid and have had two long mesenteries to both parts of the union, which would have increased the danger of twists or kinks at the site of union and would have brought about an abnormal position of the parts.

15. Abstracted in The Journal, April 23, 1910, p. 1365.

17. Abstracted in The Journal, Oct. 29, 1910, p. 1583.

Ohio State Medical Journal, Columbus

January

20 *Instruments Used by Lt.-Col. Henry Smith, I. M. S., and Some Points in Technic in His Method of Radical Extraction of Cataract. D. T. Vail, Cincinnati.
21 Comparison of the Old Cataract Operation with the New. C. F. Clark, Columbus.
22 Joint Removal of Capsule and Lens. R. Sattler, Cincinnati.
23 *Prostatectomy. W. D. Hamilton, Columbus.
24 *[illegible] ic Cerebrospinal Meningitis. W. S. [illegible]
25 [illegible] Origin and the Use of Gonococcus Vaccine. F. A. Ockley, Cleveland.
26 Carbohydrate Idiosyncrasy in Infants. A. Ramsey, Cincinnati.

20 and 23. Abstracted in The Journal, June 4, 1910, pp. 1896 and 1897.

24. Abstracted in The Journal, July 16, 1910, p. 246.

Washington Medical Annals

January

27 Review in Ophthalmology. R. S. Lamb, Washington, D. C.
28 Kidney Displacements, Congenital and Acquired, as Etiologic Factors in Dystocia. P. Willson, Washington, D. C.
29 Aneurysms in the Army Medical Museum. D. S. Lamb, Washington, D. C.
30 Sp[illegible] Before and After Treatment by [illegible] Followed by Re-Education. T. A. [illegible] C.
31 E[illegible] C. W. Richardson, Washington, D. C.

28. **Kidney Displacements.**—Only two cases of dystocia due to prolapse of a floating kidney into the pelvis in front of the pregnant uterus were found by Willson in the literature. Both mothers recovered and both infants were lost. One baby was delivered by version and extraction, but the kidney so filled up the pelvis that the delivery of the after-coming head was unduly delayed and fatal asphyxia resulted. The other child was delivered with Tarnier's basiotribe. The case reported by the author makes the third on record. The patient was a primapara, aged 21. She gave a history of attacks of acute pain in the right side, followed frequently by the passage of a large quantity of pale urine. The antepartum examination disclosed no abnormalities, except a slight contraction of the transverse diameters of the pelvis. An examination made after three hours of hard second-stage pains disclosed the cervix nearly dilated, and the head well engaged at the brim. The concavity of the sacrum was occupied by a mass of the shape, size and consistency of the right kidney. The kidney was freely movable, and during examination by the physician it was forced up over the brim of the pelvis. The woman was then delivered by forceps. Immediately following delivery, and a few days later, at the time of repairing a vaginal laceration, the kidney could be made out freely movable in the right abdomen and capable of being replaced in its normal position. The baby weighed 8¾ pounds, and was born alive and well.

29. **Aneurysms in the Army Medical Museum.**—There are 116 specimens of aneurysm in the Army Medical Museum. All those received from the army are from men, making the proportion of men to women 8.4 to 1.0; the proportion usually stated is 7 to 1. Of the 116 specimens, seventy-two are of the arch of the aorta, seven of the thoracic aorta, fourteen of the abdominal aorta and the remainder divided up among many other arteries. Of the ascending, transverse and descending parts of the arch, the proportion is seven, four and two. Some specimens show two and even three aneurysms. The ages at death were between 24 and 94; sixty patients were between 30 and 60 years of age. The cause of death was stated in only ten cases, two of which were gunshot wounds, and the others were from some sort of strain. In eighty-three cases there was definite statement that the blood-vessel was diseased, or the specimen showed that fact; syphilis was noted in eleven cases, probably in others also, though not stated. The aneurysm was sacculated in seventy-seven, fusiform in twenty-eight, and in ten it was dissecting; there was aneurysmal varix, and one varicose aneurysm. In at least seventy-six cases the aneurysms ruptured, in five of these a diffuse aneurysm was thus formed. In two cases the aneurysm underwent suppuration. In many cases the patient died of some lesion supervening on the aneurysm or not at all connected with it; six persons died of pneumonia. The heart was enlarged in only twenty-two cases, and in some of these the enlargement was from valvular disease. Treatment varied. Rest was useful in some cases. Of the various drugs, potassium iodid seemed to be of use. Pain was controlled by morphia. Venesection, compression, coagulating injections, wire introduction, electrolysis and ligation had been employed in the various cases.

Vermont Medical Monthly, Burlington

January

32 Pathology of Cranial Injuries. B. H. Stone, Burlington.
33 Acute Epidemic Paralysis (Poliomyelitis). C. K. Johnson, Burlington.
34 Bismuth-Vaselin Paste in Suppurating Tracts. L. Allen, Burlington.
35 Treatment of Eclampsia. E. J. Melville, St. Albans.

Chicago Medical Recorder

January

36 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
37 Emergency Surgery and Surgical Emergencies. W. H. Allport, Chicago.
38 Open-Air Schools. C. Hedger, Chicago.

Journal of Infectious Diseases, Chicago

January

39 *A Method for the Bacteriologic Standardization of Disinfectants. J. F. Anderson and T. B. McClintic, Washington, D. C.
40 Application of Certain Laws of Physical Chemistry in the Standardization of Disinfectants. E. B. Phelps, Boston, Mass.
41 *[illegible] in the Tubercles of Leprosy. F. B. [illegible]
42 [illegible] of the Weasel, the Chipmunk and [illegible] W. McCoy, San Francisco.
43 *Effect of Vacuum Desiccation on the Virus of Rabies. D. L. Harris and L. F. Shackell, St. Louis.
44 *Administration of Diphtheria Toxin in a Collodion Sac. E. C. L. Miller, Detroit.
45 Biologic Reactions of the Vegetable Proteins. H. G. Wells and T. B. Osborne, Chicago.

39. Abstracted in The Journal, Sept. 17, 1910, p. 1043.

41. **Suppuration in the Tubercles of Leprosy.**—That many or, perhaps, most of the abscess formations, suppurative arthritides, and other purulent processes occurring in leprous patients are due to the invasion of tissues whose resistance is lowered by one or other of the ordinary pyogenic bacteria is undoubtedly correct; that, however, such a condition is not a necessity, a case which came under Gurd's observation proves. The patient had suffered from leprosy between two and three years. He was suffering from malaise, anorexia and other evidence of a constitutional disturbance. The tubercles situated over the face and hands were much swollen and very red and tender; one swelling over the malar prominence on the left side had ruptured spontaneously and was discharging pus. A tubercle over the posterior surface of the left wrist was incised, resulting in the expulsion of about 25 c.c. of a

yellowish-green purulent material. The material was planted on ordinary and several special culture media, both aerobically and anaerobically, *without the development of a single* colony. Smears were made and stained by Giemsa's method, carbol-fuchsin with acid decolorization, and by Gram's. The cellular elements with the polychrome stain consisted almost exclusively of polymorphonuclear leukocytes, together with *a small number of large vesicular nuclei, practically devoid of protoplasm.*

Leprosy bacilli were present in very large numbers. A few well-formed aggregations or globi were found, but for the most part the bacilli were lying singly or in small groups. A much larger percentage than usual appeared broken up in the form of granules. Certain numbers of pus cells contained *a few bacilli but, in general, the organisms were free.* Absolutely no other bacteria could be demonstrated in any preparation. In addition to the above case, in which comparatively large pus collections were present, the routine examination by Gurd of a number of leprosy nodules derived during life and at necropsy has shown that polymorphonuclear leukocytes may be found almost constantly in small numbers, although in no case have definite foci of such cells been seen.

43. **Vacuum Desiccation and the Virus of Rabies.**—The essential feature of Shackell's method is that the material is kept solidly frozen during the process of drying. Animal tissues when dried by this method are preserved intact, show *no* shrinkage, are porous, and resist chemical changes and deterioration. The authors have found that, by using Shackell's method of desiccation, brains and cords may be desiccated *in toto* without destruction of virulence. The time required for complete extraction of water is about twenty-four to thirty-six hours. A number of brains were so treated and the infectivity of all was preserved. After the completion of desiccation, these brains were placed in an ordinary desiccating jar over sulphuric acid, and left continually exposed to light at the ordinary room temperature. One brain has remained infective for four months. The only precaution taken was to guard against moisture. Material thus dried is like chalk, and is easily pulverized. It is, however, very hygroscopic, and, after a few hours' exposure to the air, becomes leathery and rapidly loses its infectivity. Experiments are now being carried on to compare quantitatively the virulence of desiccated cord with that of fresh cords, after the method described by Harvey and McKendick.

44. **Administering Diphtheria Toxin in Collodion Sac.**—In his experimental work Miller found that a guinea-pig may be killed by introducing a collodion sac containing diphtheria toxin into its peritoneal cavity; the slow absorption of toxin from the sac corresponding closely to the absorption of toxin from the false membrane in a case of diphtheria. To save the life of a guinea-pig by the administration of antitoxin after the introduction of a sac, requires an enormous dose or the long-continued administration of moderate doses. The reason for this seems to be that the antitoxin administered subcutaneously, being a foreign protein, is subjected to rapid destruction of the tissues, while the toxin protected from such destruction by the sac continues to diffuse out and kills the animal after the protective power of the antitoxin has disappeared. The essential difference between these sac tests and the administration of antitoxin in diphtheria appears to be that in these tests the antitoxin has no influence on the supply of toxin, while in diphtheria the administration of antitoxin is followed by destruction of the membrane, and *consequently the supply of toxin ceases and the patient* recovers. This power of antidiphtheritic serum to destroy the membrane is probably as important as its antitoxic action but, unfortunately, we have no means of measuring it. When used as a prophylactic, low potency serums protect for a longer time than those of high potency. Antitoxin protects until it is destroyed by the tissues. The more proteid it is combined with, the longer will its destruction be delayed. Diphtheria toxin in a collodion sac undergoes some change by which the sac, although containing less toxin than in the beginning, is able to kill a second guinea-pig in half the time required to kill the first. This difference may be analogous to *the short incubation period of tetanus toxin from the blood* of an animal compared with the incubation period of tetanus toxin produced by the growth of the germs *in vitro.* It may also account for certain very rapidly fatal cases of diphtheria.

Southern California Practitioner, Los Angeles

January

46 Submaxillary Infection. Ludwig's Angina. W. W. Roblee, Riverside, Cal.
47 Present Status of Gastric Carcinoma. W. P. Millspaugh, Los Angeles.
48 Infections in Minor Surgery. W. L. Huggins Los Angeles.
49 The Seventh Year of the Barlow Sanatorium, Los Angeles, Cal. R. L. Cunningham, Los Angeles.
50 Tonsillotomy vs. Tonsillectomy, with Technic. C. H. Montgomery, Los Angeles.
51 The German Clinics. H. H. Lissner, Los Angeles.
52 The Finsen Institute, Copenhagen, in 1910. A. Soiland, Los Angeles.
53 Atonic and Spastic Constipation. H. S. Gordon, Santa Ana, Cal.
54 Alcoholism as a Cause of Disease. H. A. Hughes, Phoenix, Ariz.
55 Los Angeles Medicine. W. Lindley, Los Angeles.

American Journal of the Medical Sciences, Philadelphia

January

56 *Paroxysmal Pulmonary Edema and Its Treatment. A. Stengel, Philadelphia.
57 Control and Treatment of Hypertension and Arteriosclerosis. H. L. Elsner, Syracuse, N. Y.
58 *The Tonic Use of Digitalis. E. Schmoll, San Francisco.
59 *Treatment of Typhoid.* F. S. Meara, New York.
60 Cholera from a Modern Standpoint. A. H. Doty, New York.
61 *Relation of Disease of the Gall-Bladder and Biliary Ducts to the Gastric Functions. J. A. Lichty, Pittsburg.
62 *The Dyspepsia of Old Age. G. M. Niles, Atlanta, Ga.
63 *Diagnosis of Tuberculosis of the Bronchial Glands. H. F. Stoll, Hartford, Conn.
64 Pellagra: Two Cases with Necropsy. P. V. Anderson, Morgantown, N. C., and W. G. Spiller, Philadelphia.
65 *Influence of the Trendelenburg Position on the Quantity of Urine Excreted During Anesthesia. J. W. Bovée, Washington, D. C.
66 Multiple Abscesses of the Nasal Submucosa in a Case of Leukemia. J. P. Tunis, Philadelphia.

56. **Paroxysmal Pulmonary Edema.**—The distinguishing features, clinically speaking, of the condition referred to by Stengel, are its sudden onset, usually with slight provocation; the evidence of intense pulmonary edema; the expectoration of quantities of frothy and blood-stained serum; and the repetition of such attacks without intercurrent complicating conditions. These features distinguish this condition from certain other forms of acute pulmonary edema, which, during their height, may not be especially different in clinical manifestations. The seizures, as a rule, come on in the evening or after the patient has gone to bed. He may awake from a profound sleep with an oppressive cough, followed by the symptoms described. In some cases, vague apprehensions or uncontrollable nervous feelings may precede the attack, but these usually occur after a repetition of the seizures has made the patient familiar with their character and fearful of their recurrence. Various kinds of excitement, physical or mental, may provoke the attacks; but in a large proportion of cases there is no such cause. Repeated attacks of the same character may occur at intervals of days or weeks during a long period of time. Between attacks, the patient may be perfectly well, or, more frequently, may give evidence of some inadequacy of cardiac compensation. In the cases which have terminated fatally, the final result has usually been due to increasing cardiac decompensation rather than to the sudden effect of an attack of pulmonary edema. Morphin, atropin, chloroform, nitroglycerin and venesection are employed to control the attacks. After the first stage of the attack has been controlled by an injection of morphin and atropin it is desirable to make use of cardiac stimulants to restore *the power of the left ventricle and to promote vasodilatation,* if this be possible. For these purposes injections of strychnin, digitalin, and nitroglycerin may be employed, and aromatic spirits of ammonia or brandy may be given by the mouth if the patient is able to swallow. The after-treatment in cases in which one or more attacks have occurred consists in strict regulation of the daily life of the patient to avoid fatigue, excitement, cold and physical strains, and some care of the diet so as to prevent overloading of the stomach and superalimentation, particularly at the evening meal. Caffein may be particularly useful at this time, but strophanthus, digitalis or nitroglycerin may be desirable.

58. **Tonic Use of Digitalis.**—Schmoll holds that digitalis acts as a specific on the tonicity of the heart muscle, and is indicated whenever symptoms point to a failure of that function. Its tonic effects are best secured with a dose equal to the amount excreted—about 0.1 gram a day—though doses of 0.15 and 0.2 a day sometimes can be taken for weeks without the appearance of cumulative effects. Loss of tonicity is shown first by general symptoms—râles over the bases of the lungs, enlargement of the liver, and slight edema of the ankles. Digitalis is indicated, therefore, whenever these symptoms appear, and especially, he states, in cases in which the patient, after recovering from a severe break in compensation, shows a tendency to fail on the slightest exertion.

61. **Disease of the Gall-Bladder and Biliary Ducts.**—In 156 of 249 patients in whom the diagnosis of some disease of the gall-bladder and ducts has been made, Lichty made gastric analysis with the usual methods employed clinically to determine the secretory and motor condition of the stomach; eighty-four (54 per cent.) had hyperacidity; thirty-one (20 per cent.) had subacidity; and forty-one (26 per cent.) had normal secretion. The motor function, so far as could be determined, was normal in about the same percentage of cases. Of the 249 patients on whom these observations were made, fifty-one came to operation; thirty of these were subjected to gastric analyses; sixteen (about 53 per cent.) had hyperacidity; eight (about 26 per cent.) had subacidity; and [illegible] (about 20 per cent.) had normal acidity. In a number of the 249 cases the gastric analyses were made because there were definite symptoms of gastric disturbance associated with the gall-bladder symptoms, but in some it was made because the gastric symptoms were the only ones present, and later, when treatment did not produce the desired results, the abdomen was opened and either gall-stones were found, or adhesions from a local peritonitis, due to gall-bladder infection, had occurred between the gall-bladder and duodenum, between the gall-bladder and stomach, or both. In several cases both gall-stones and gastric ulcer were found. From these figures it would seem that about 75 per cent. of all gall-bladder cases may be associated with a disturbance of gastric secretion, and of this 75 per cent., two-thirds have hyperchlorhydria. Gastric motility, as well as gastric secretion, was disturbed in about the same proportion of cases.

62. **Dyspepsia of Old Age.**—The senile dyspepsias are divided into two classes by Niles, the hyperkoric and the akoric. In the first, or hyperkoric cases, the degeneration and insufficiency of the digestive organs simply keep pace with the rest of the body. With decreased muscular activity there are decreased assimilative powers, and the patient finds that articles of food now disagree which were formerly digested with ease. The second class, or akoric dyspepsia, is generally found in obese old people, or in those in whom the mental edge, perhaps once sharp and bright, has been either blunted or worn off. The normal tonicity of the stomach gives place to relaxation, its walls become flabby, and more food is required to give the sensation of comfortable fulness. Pyloric insufficiency is generally present, while atonic constipation supervenes almost as a matter of course. Hunger cannot be satisfied, elimination is imperfect, and the intestines veer between obstinate constipation and lienteric diarrhea. In the hyperkoric dyspepsia the food should contain a minimum of non-digestible, non-nutritious elements and lime salts. Most of the predigested foods on the market are unavailable on account of their high percentage of alcohol, but the meat juices, peptonized milk, malted milk, lactone buttermilk, malt extracts, eggs, and the farinaceous foods may usually be given, to which, if deemed advisable, the gastric and pancreatic ferments may be added. The proportion of cellulose, which should properly enter into the dietary of adults so as to promote peristaltic activity, may be omitted from consideration, and all foods should be given in the most concentrated form, and in the shape most easily assimilated. The management of the akoric type of senile dyspepsia will call for infinite tact and discretion. Cathartics should be used with caution, and gentle methods for cleansing the bowels should be combined with measures to overcome subsequent weakness.

63. **Tuberculosis of the Bronchial Glands.**—Tuberculosis of the bronchial glands, according to Stoll, often exists as a distinct clinical entity, capable of diagnosis. The presence of dilated veins over the anterior aspect of the chest, spinalgia, interscapular or vertebral dulness, and vertebral bronchophony speak strongly for enlarged bronchial glands, the tuberculous nature of which is perhaps assured when in addition to the above the individual is under weight and has a paroxysmal cough and the symptoms of a tuberculous toxemia. The recognition of the disease, while it is still limited to the bronchial glands, is of the utmost importance, as we know the most salutary results of tuberculin therapy are obtained in glandular tuberculosis.

65. **Urine Excreted During Anesthesia.**—If it can be concluded from Bovée's observations that the renal function is greatly lessened while the patient is in the Trendelenburg position, then the danger of that position is at once appreciated. In renal inefficiency, and cardiac and arterial lesions, it seems that the use of the Trendelenburg position introduces a special element of danger, and this less markedly when ether is used than when chloroform is employed as the anesthetic.

Southern Medical Journal, Nashville

January

67 *Study of Human and Bovine Bacilli, Isolated from Eleven Consecutive Cases of Cervical Adenitis. W. Litterer, Nashville.
68 Advance of Surgery. E. D. Martin, New Orleans, La.
69 Education of the Specialist. E. C. Ellett, Memphis, Tenn.
70 Treatment of Gastric and Duodenal Ulcers and Hyperchlorhydria. E. B. Block, Atlanta, Ga.
71 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
72 *The Nausea of Pregnancy. G. H. Fonde, Mobile, Ala.
73 The Wassermann Reaction. J. O. Rush, Mobile, Ala.
74 Salvarsan in the Hospitals of Paris. A. L. Fowler, Atlanta, Ga.
75 First Measures Needed for Child Welfare on the Part of Municipal and Educational Authorities in the South. D. S. Hill, Nashville.

67. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

72. Abstracted in THE JOURNAL, May 28, 1910, p. 1817.

New York State Journal of Medicine

January

76 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
77 Is There Such a Disease as Neurasthenia? W. Browning, Brooklyn.
78 Psychology of Tuberculosis. W. H. Kidder, Oswego.
79 *Care and Treatment of Epileptics. W. T. Shanahan, Sonyea.
80 Importance of an ormal Pelvic Conditions. M. Ga
81 *The Vein Sign in W. W. Skinner, Geneva.
82 Old Truths About Infant Feeding Worth Repeating. C. G. Leo-Wolf, Niagara Falls.
83 Fibroid Uterus Didelphys. J. B. Conant, Amsterdam.
84 *Use of Antitoxin in Asthma. H. R. Parker, Barneveld.
85 Gunshot Wounds of the Abdomen. T. Wright, Buffalo.
86 ion and Treatment of Adenoids. A. H.
87 Practitioner to Refraction of the Eye.
88 eath from Unusual Complication with A. B. Sullivan, Liberty.

76. Also published in *St. Paul Medical Journal*, January, 1910.

79. **Care and Treatment of Epileptics.**—It is Shanahan's opinion that in brain tumor and traumatic cases of epilepsy, patients who are operated on early, before several seizures have occurred to produce permanent damage, may be benefited in many instances. Careful after-treatment with sedation when indicated is of the utmost importance. But, he says, the epileptic is too frequently a degenerate with an abnormal nervous system which cannot be readjusted and made anew by operative procedure. The congenital defect is beyond renovation by surgical skill. A regular occupation, preferably out of doors, is essential for the able-bodied epileptic. Special instruction in the ordinary school branches and especially in manual training, should be arranged for the younger patients. This is important to inculcate discipline as well as for the knowledge acquired. There is no specific medication to be used in epilepsy, although the proper use of the bromin preparations approaches this in selected cases. Bromids should be given early and continued over a period of years. If a maximum continued dose of from 75 to 90 grains during the twenty-four hours does not control the seizures in an adult, it is not wise, in the average case, to push the drug beyond this point. The elimination of sodium chlorid

from the diet aids materially in producing the full effect of the bromids. When associated cardiovascular conditions exist, digitalis, strophanthus, amyl nitrate, nitroglycerin, etc., prove of value. Shanahan finds that strychnin can be used without fear as a stimulant or tonic when indicated. Investigators have claimed much benefit resulting from the giving of calcium lactate, but a series of patients at Craig Colony to whom it was administered, failed to show much change, except one boy whose condition did improve some. The treatment of serial seizures, status epilepticus and the various mental disorders accompanying epilepsy is of great importance. Avoidance of constipation, proper exercise, a carefully regulated diet and frequent bathing are of the utmost value as prophylactic measures.

When status epilepticus is once established, the gastro-intestinal tract must be emptied thoroughly by cleansing enemata and by stomach tube. Then chloral or amylene hydrate by enema should be used judiciously to control the convulsions. The bromids are of but little value in this condition. Chloroform may be given in the early stage until some chloral has been absorbed. Lumbar puncture to relieve this supposed increased intracranial tension may be used in severe cases. Venesection is used in plethoric individuals. Cold sponges or packs are of great value to control the temperature which may be elevated to 107 or 108 F. For stimulation when required, Shanahan has found enemata of strong black coffee and hypodermatic injections of brandy and aromatic spirits of ammonia to act very well. After the convulsions have ceased, a supportive diet and careful nursing are all-important. He warns that pneumonia and bed sores must be watched for. For the mental disturbances close supervision, nourishing food, due attention to the emunctories and hydrotherapy are sufficient. The diet in epilepsy may be fairly liberal, avoiding an excess of meats and all pastries, sweets, etc. Some patients do better without any meat; cooked cabbage and cauliflower are to be avoided. The food must be well masticated, not bolted. For chronic cases in which there is an organic basis, the individual should be placed in the special institution where with his fellow sufferers he may lead as cheerful an existence as his condition will permit. He can have regular and congenial occupation, and recreation with a suitably arranged simple life with avoidance of all undue excitement. Epilepsy is essentially a chronic disorder, consequently treatment must be continued over a long period of years and in all instances a closely regulated mode of living must be maintained throughout the remainder of life. Shanahan presents a few charts which illustrate clearly how many defectives propagate and why their marrying should be systematically discouraged.

81. **Vein Sign in Abdominal Inflammations.**—In one of his earlier operations for appendicitis Skinner observed, in making the incision near McBurney's point, that the subcutaneous and deeper veins presented a dark and swollen appearance. In the next case, he was aided in making the diagnosis in the presence of rather obscure symptoms of general abdominal pain, vomiting, and little, if any, localized muscular rigidity, by carefully observing the conditions of the superficial abdominal veins. Since then he has never attempted any operative procedure on the appendix, or indeed in any inflammatory intra-abdominal conditions, without subjecting the subcutaneous veins to the most careful scrutiny in a good light with the skin gently stretched in successive areas. Repeated and careful observations, extending now over a period of more than nineteen years, have convinced Skinner that this venous darkening furnishes one of the most valuable and accurate localizing signs in intra-abdominal inflammation; a sign incapable of stimulation and independent in its records and manifestations alike of systemic, nervous and psychic conditions. He has also noted this sign in ulcerative conditions of the sigmoid flexure; in inflammations of the Fallopian tube and of other tissues and structures enclosed in its broad ligament; in cases of septic collections or pus-pools in Douglas' cul-de-sac; and in acute inflammations of the pelvis of the kidney or ureter.

84. **Antitoxin in Asthma.**—Although convinced that antitoxin gives some positive relief in asthma, Parker also feels that there is a large psychical element involved, and he has ceased to use antitoxin.

Yale Medical Journal, New Haven

December

89 Infantile Paralysis. J. G. Stanton, New London, Conn.
90 Id. L. F. Wheatley, Meriden, Conn.
91 A Case of Irregular Micturition. J. L. Buttner, New Haven, Conn.
92 Treatment of Infection Following Abortion, Miscarriage and Labor. C. A. Monagan, Waterbury, Conn.
93 Surgical Treatment of Gastric and Duodenal Ulcers. E. J. McKnight, Hartford, Conn.
94 Treatment of Fractures. G. W. Hawley, Bridgeport, Conn.
95 Principles of Intracranial Surgery. W. F. Verdi, New Haven.

Laryngoscope, St. Louis

January

96 Surgical Consideration of Tumors of the Larynx. J. F. Erdmann, New York.
97 *Analgesia of the Larynx by Alcohol Injection of the Internal Branch of the Superior Laryngeal Nerve. A. Lewy, Chicago.
98 Non-Suppurative Ethmoiditis. G. P. L. Marquis, Chicago.
99 Nasal Polypi. C. C. McCullough, Fort William, Ontario.
100 General Anesthesia in Operations in the Pharyngeal Region and About the Neck. M. Metzenbaum, Cleveland, Ohio.
101 A Modified Aural Speculum Especially Adapted for Incision of the External Canal. D. C. Smyth, Boston.

97. **Analgesia of Larynx by Alcohol Injection.**—Lewy describes a practical method for the relief of the pains in some cases of tuberculosis of the larynx which he has employed successfully in three cases. The injection is made directly through the skin of the neck. From 0.5 to 2 c.c. of 75 per cent. alcohol (with or without 1 per cent. cocain), warmed a little above body temperature is injected at a sitting. The patient's head is inclined to the side opposite the one to be injected; the skin, previously shaved, if necessary, is cleansed with alcohol; the operator's left hand grasps the larynx to steady it and hold it prominently under the skin of the side to be injected, in such a way that the thumb is on the uninjected side while the left index-finger seeks the comparatively tender point where the internal branch of the superior laryngeal nerve penetrates the thyrohyoid membrane, a point about half-way between the upper border of the thyroid cartilage and the hyoid bone, and about a centimeter in front of (mesially from) the superior cornu of the thyroid cartilage. The index-finger is held firmly in place while the needle is inserted at the point marked by the center of the nail to a depth of 1 to 1.5 cm. perpendicularly to the surface. If the nerve has been accurately located, this insertion will cause a pain radiating characteristically toward the ear. However, the injection may be made in this locality, drop by drop (after the pain caused by the insertion subsides), until the original pain ceases or until the full amount (2 c.c.) is used. The injection may be repeated next day, if necessary. In Lewy's cases there was no loss of the cough reflex or aspiration of food, which could be taken with comfort following the injection. An ordinary hypodermic syringe may be used, but a special obturator needle is perhaps preferable. No after-treatment is required. The puncture may be sealed with collodion if desired.

St. Paul Medical Journal

January

102 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
103 Ophthalmic Migraine. C. E. Riggs, St. Paul.
104 The Climate of Minnesota. H. L. Taylor, St. Paul.

102. Also published in *New York State Journal of Medicine*, January, 1910.

Medical Fortnightly, St. Louis

January 10

105 So-Called Chronic Rheumatism—Chronic Fibrositis: Treatment. M. Packard.
106 Salvarsan in Syphilis. J. L. Boehm, St. Louis.
107 Cause and Cure of Ingrowing Toe-Nail. C. C. Miller, Chicago.
108 Surgical Eponyms. M. Hagen, Chicago.

Alabama Medical Journal, Birmingham

December

109 Cesarean Section: Report of Seven Cases with Loss of Mother or Child. E. M. Prince, Birmingham.
110 Bismuth Paste in Thoracic Empyema. G. A. Hogan, Birmingham.
111 Home Treatment of Tuberculosis and Use of Tuberculin. C. M. Nice, Birmingham.
112 Ovarian Cystadenoma Weighing Seventy Pounds—Removal and Recovery. E. M. Robinson, Birmingham.

Albany Medical Annals

January

113 Public Health and Municipal Authorities. E. H. Porter, New York.
114 Public Health and the Municipal Authorities from the Standpoint of the Municipal Officer. C. C. Duryee, Schenectady, N. Y.
115 *Management of Pneumonia. R. W. Wilcox, New York.

115. **Management of Pneumonia.**—Success in the management of pneumonia, according to Wilcox, depends on the following points: 1. It is as important to know what sort of an individual has the disease as what disease he is suffering from. 2. No one has ever treated a "case of pneumonia" but a person suffering from this disease. 3. All therapeutic measures must be considered broadly as to method, remedy, disease and patient. Taking all into consideration, the treatment of pneumonia is especially satisfactory. Wilcox relies on: (1) The continuous, persistent and generous administration of creosote carbonate; (2) careful adjustment of mechanical conditions; (3) thorough evacuation of toxins by all possible means; (4) supplemental oxygen by inhalation, when required; (5) liquid diet until all physical signs disappear.

Interstate Medical Journal, St. Louis

January

116 Present Status of the Noguchi Method of Serodiagnosis of Syphilis. H. Noguchi, New York.
117 Means of Finding the *Spirochæta Pallida* by the India-Ink Method. J. S. Cohn, Chicago.
118 History and Methods of Application of Salvarsan. L. H. Marks, Frankfort, Germany.
119 Syphilis of the Nervous System. E. Jones, Toronto.
120 Treatment of Syphilis with Salvarsan. A. L. Wolbarst, New York.
121 Recent Progress in Treatment of Syphilis. H. Hallopeau, Paris.
122 Giant Cells in Syphilis. J. A. Fordyce, New York.
123 Salvarsan. B. C. Corbus, Chicago.
124 The Public and Syphilis. I. Dyer, New Orleans.
125 Syphilis and Pulmonary Tuberculosis. R. H. Babcock, Chicago.
126 Syphilis as a Cause of Pauperism. A. Ravogli, Cincinnati.
127 Sanitary Supervision of Prostitutes. P. A. Morrow, New York.
128 The Scaphoid Scapula Syndrome; Its Connection with Syphilis in the Ascendants. W. W. Graves, St. Louis.

Pennsylvania Medical Journal, Athens

January

129 Venereal Affections Considered as Epidemic Diseases. J. F. Schamberg, Philadelphia.
130 Prophylaxis of Venereal Disease. M. F. Gates, Philadelphia.
131 *Prophylaxis of Gonorrhea. M. F. Gates, Philadelphia.
132 *Abortive Treatment of Gonorrhea. M. Brooks, Philadelphia.
133 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg.
134 *Diagnosis and Treatment of Chronic Gonorrhea. T. L. Disque, Pittsburg.
135 *Clinical Experience with the Antigonococcus Serum and Vaccines in Gonorrhea and Its Complications. W. H. MacKinney, Philadelphia.
136 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg.
137 *Enuresis from Thyroid Insufficiency. E. B. McCready, Pittsburg.
138 Herpes Zoster Ophthalmicus. E. E. Wible, Pittsburg.
139 *Method of Preserving Eyes which Are Usually Removed. E. L. Jones, Cumberland, Mo.

131, 132, 133, 134, 135 and 136. Abstracted in The Journal, Nov. 19, 1910, pp. 1838 and 1839.

137. Abstracted in The Journal, Nov. 5, 1910, p. 1671.

139. **Method of Preserving Eyes.**—Jones describes the method of injecting cyanid of mercury, 1 in 1,500, first advocated by Darier in 1903.

Louisville Monthly Journal

January

140 Acute Pulmonary Edema. J. A. Flexner, Louisville.
141 Organic Diseases of the Cardiovascular System. W. F. Boggess, Louisville.

Therapeutic Gazette, Detroit

January

142 *The Prophylaxis of Gonorrhea. M. F. Gates, U. S. Navy.
143 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg, Pa.
144 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg, Pa.
145 Treatment of Ascites by the Intraperitoneal Injection of Adrenalin. T. M. Tyson and H. D. Jump, Philadelphia.
146 Salvarsan. M. Silverberg, San Francisco.

142, 143 and 144. Abstracted in The Journal, Nov. 19, 1910, pp. 1838 and 1839; 142 and 143 are same as 131 and 133 above.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 14

1 *Surgical Treatment of Displaced Semilunar Cartilages of the Knee. D. Power.
2 *Conservative Surgery of the Nose. W. Stuart-Low.
3 Connection of Enlarged Cervical Glands with Carious Teeth, Enlarged Tonsils and Adenoids. H. Osborne.
4 *Draughts and Colds. R. C. Macfie.
5 Biologic and Statistical Errors in the Work on Parental Alcoholism by Miss Elderton and Prof. Karl Pearson. M. D. Sturge and Sir V. Horsley.

1. **Treatment of Displaced Semilunar Cartilages.**—When the patient is seen directly after the injury, Power says, every care should be taken to replace the injured cartilage in position by well-considered manipulation. Rest in an extended position must be insisted on until the swelling has subsided and time has been given for repair, massage being employed during the whole of this period. It must be borne in mind that no satisfactory result will be obtained if the injury be treated simply as a sprain by rest and cooling lotions. It is essential that the cartilage should be replaced, for otherwise it is useless to rest the joint as it would be to rest an unreduced dislocation. When these methods have failed, or when the original condition has been badly treated, and the patient is left with a chronically inflamed joint, which is insecure, painful and locking, the sooner an arthrotomy is performed and the interarticular cartilage is removed the better it will be for the patient. Power's inquiries show that the least satisfactory results are obtained when the patient has been allowed to go about with a damaged fibrocartilage for months or years, the best results when he has had only a few attacks of painful fixation of a joint. In these latter cases the ligaments have not become stretched, and the joint quickly resumes all its normal functions.

2. **Conservative Surgery of the Nose.**—The most beneficent surgery of the nose, Stuart-Low holds, is the most conservative as regards the preservation of the mucous lining, and is almost always attained by operating successfully in stages, rather by what he calls physiologic, than by severe, sweeping, sacrificial surgery.

4. **Draughts and Colds.**—The conclusion reached by Macfie is that draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favored rather than feared. To endeavor to escape colds by avoiding all draughts must always be futile and foolish policy, and will not only defeat its own aim by fostering bacteria and by promoting vasomotor lethargy and incompetence, but will lead to deficient vigor through interference with skin reflexes, which play an important part in the respiratory and circulatory functions. When we wish to excite the respiratory center of the new-born babe we appeal to its skin reflexes, and in cases of night sweats a breeze on the skin seems to give tone to the whole vasomotor system. The skin is certainly meant to be exposed to moving air currents and to vicissitudes of heat and cold; it is meant to have a blood-supply that ebbs and flows according to the thermal needs of the tissues; it is meant to perspire and to transpire; and accordingly to shut it off from wind currents and to enclose it in a motionless layer of moist air is, Macfie declares, to depart very far from the ways of physiologic righteousness. The bracing effects of dry air and of seaside breezes are largely due to their stimulating effects on the excretory and reflex functions of the skin; and the man who endeavors to avoid colds by avoiding all draughts, will not only catch more than his share of colds, but will possess much less than his share of health and vigor.

Lancet, London

January 14

6 *Influence of Parental Alcoholism on the Physique and Ability of Offspring. T. B. Hyslop.
7 Sepsis and Antisepsis in Medicine. W. Hunter.
8 *Subtotal Hysterectomy for Fibromyoma Uteri. A. H. G. Doran.
9 *Gangrene of Limb During Convalescence from Diphtheria. A. S. Ransome and E. M. Corner.

10 Importance of Removing the Uterus in Certain Diseased Conditions of the Ovaries and Fallopian Tubes. J. M. M. Kerr.
11 The Association of Duodenal Ulcer with Disease of the Appendix. H J. Paterson.
12 *Treatment of Disseminated Sclerosis. E. F. Buzzard.
13 Torsion of the Left Broad Ligament and Fallopian Tube in a Child. M. A. Cassidy.
14 Massive Infarction of the Renal Cortex. J. A. Torrens.

6. **Influence of Parental Alcoholism.**—The theory discussed by Hyslop briefly stated is: Does parental alcoholism (of a pernicious kind)—apart from parental degeneracy, which, together with a tendency to alcoholism, is heritable—influence the physique and ability of offspring? He says that the association—in contra-distinction to causation—of alcoholism and degeneration in the parent is insufficiently understood, and the difficulty in distinguishing between cause and effect, both in the parent and offspring, is so great that the decision frequently must be mere guesswork. The present problem requires that parental alcoholism shall precede conception or the birth of the child; whereas, in the transmission of a psychoneurosis by direct inheritance, the parental alcoholic tendency may be latent, and not come into evidence until after the birth of the child. This necessitates complete differentiation between the two series. Alcoholism would appear to be responsible for a relatively greater number of births than would health or degeneracy without alcoholism, and there appears to be some evidence derived from experiments on animals treated by alcohol that their young, although in greater number, were much weaker. Epilepsy, some forms of insanity, defective inhibition and mental enfeeblement, deaf-mutism and stunted growth, although instances of what has been aptly termed the "general controlling determinant," and transmitted by direct heredity, are apt to be not only intensified in the offspring, but make their appearance at a relatively earlier age, when parental alcoholism has been an additional factor. Parental alcoholism appears to accentuate the downward trend of inherited psychoneurosis, and with each successive generation the period of exemption from alcoholism and degeneracy becomes shortened, so that the offspring become alcoholic or degenerate at relatively earlier ages. Alcohol would in this way act as a complementary factor to parental degeneracy, and aid in the devolution of the stock. The inheritance of psychoneurosis (which would tend to diminish in severity with each successive generation, and with the introduction of new correcting influences through marriage) becomes intensified and prolonged when alcoholism becomes a complicating factor. In this way, the psychoneurosis is kept alight through a greater number of generations.

8. **Subtotal Hysterectomy for Fibromyoma Uteri.**—To the sixty cases previously reported, Doran adds forty—making a total of 100 cases. In forty cases, or 40 per cent., both ovaries were removed, and the menopause was neither immediate, nor complete in four; in three out of four the amputation was above the os internum. In thirty-nine cases, or 39 per cent., one ovary was saved, and the menopause was neither immediate nor complete in twenty-one; in eighteen out of the twenty-one the amputation was above the os internum. In twenty-one cases, or 21 per cent., both ovaries were saved. The menopause was neither immediate nor complete in eight; in seven, possibly all, of the eight the amputation was above the os internum.

9. **Gangrene in Diphtheria.**—Nine cases of gangrene of parts distant to the disease, such as a limb, following diphtheria, were found by Ransome and Corner recorded in the literature. The gangrene in these cases was connected with a definite vascular lesion. In seven cases the lesion was a definite embolism; in one it is termed Raynaud's disease, and in two the origin is obscure. In no less than six out of the nine cases the leg was affected; in one there were, in addition, widespread gangrenous lesions. In two other cases there was a widespread necrotic affection. Thus it would appear that in six out of the nine cases the gangrene was due to a vascular lesion, and that in two it was due to a vascular lesion with the addition of an infective or septic character in the embolus. In only one case, that here recorded, was the diphtheria treated with antitoxin. The majority of the patients were children. The origin of these emboli seems to be in the auricles, particularly the left auricle, because in only one case was there also a pulmonary embolism. The embolus occurs during convalescence, at the time of reaction from the illness; in the authors' case on the seventeenth day of the illness. It seems to occur only after a severe diphtheritic attack. Subsequently to the embolism the temperature rose to 99.8 F. from subnormal, to which level it subsided, rising again in a few days' time from septic absorption from the gangrenous part.

12. **Treatment of Disseminated Sclerosis.**—The resemblance between cerebrospinal syphilis and disseminated sclerosis led Buzzard to suspect that the latter disease may be caused by some organism belonging to the same class as that of the treponema. The fact that this class of organism is best combated by mercury or arsenic induced him to commence the tedious experience of treating a few selected patients with disseminated sclerosis by repeated courses, or nearly continuous administration, of arsenic, on the same principle as that which makes the repeated administration of mercury the only effective method of preventing attacks of cerebrospinal syphilis in syphilitics. So far as the experiment has gone, there is nothing to show that it is useless, but Buzzard does not claim any success on the material at present available. He asks for cooperation.

Dublin Journal of Medical Science

January

15 Treatment of Fractures by Ancient and Modern Methods. W. I. de C. Wheeler.

Journal of Laryngology, Rhinology and Otology

January

16 Partial Petro-Mastoid Excavation with Preservation of the Tympanic Membrane and Ossicles. G. Mahu.

Annals of Tropical Medicine and Parasitology, Liverpool

December

17 *Enumerative Studies on Malarial Fever. R. Ross and D. Thomson.
18 A Case of Hemoglobinuric Fever (Blackwater Fever) Followed by a Peculiar Relapse Without Hemoglobinuria or Detectable Plasmodia. R. Ross, D. Thomson and G. C. E. Simpson.
19 *Hemoglobin Metabolism in Malarial Fever. G. C. E. Simpson.
20 *A Case of Sleeping Sickness. V. T. Korke.
21 Malaria in Relation to Splenic Enlargement and the Treatment of the Crescentic Stage. N. F. Surveyor.
22 *Peculiar Morphology of a Trypanosome from a Case of Sleeping Sickness and the Possibility of Its Being a New Species (*T. rhodesiense*). J. W. W. Stephens and H. B. Fantham.
23 *Pathogenicity of a Trypanosome from a Case of Sleeping Sickness Contracted in Rhodesia. W. Yorke.
24 Three New Species of the Genus Glossina, Together with a Description of the Hitherto Unknown Male of *Glossina Grossa, Bigot*. R. Newstead.
25 *Descriptions of a New Genus and Three New Species of Anopheline Mosquitoes. R. Newstead and H. F. Carter.

17. **Studies on Malarial Fever.**—It is believed by Ross and Thomson that there is a very decided correlation between the number of asexual plasmodia found in the peripheral blood and the fever. As a rule, no fever exists unless the asexual forms exceed some hundreds per cubic millimeter. The asexual forms do not always disappear between relapses (as often thought) but tend to persist in small numbers per cubic millimeter, and often increase again for some days before the actual febrile relapse occurs. These observations give a coherent theory of the malarial invasion, according to which the infection is kept alive indefinitely by the ordinary sporulation of the asexual forms, and not by parthogenesis or by resistant forms; and fever occurs only when the parasites are numerous enough to produce it. The authors estimate from their cases that considerable continued doses of quinin reduce the asexual forms by from 50 to 80 per cent. There are strong reasons for supposing that the sexual forms require eight to ten days for development; that the often noticed long persistence of crescents is not due to their long life, as generally thought, but to constant replenishments of the stock by fresh broods; that they sometimes show a distinct tertian periodicity; and that quinin does not affect them when once generated, but ultimately reduces their numbers by destroying the generating cells. The sexual forms were never seen to produce fever. The leukocytes are below normal during febrile periods and above normal afterward. The percentage of mononuclears rises after paroxysms and is always in excess of the normal. Methylene blue, soamin, Roentgen rays and

faradic and galvanic currents had no results in a few experiments. The hemoglobin falls markedly with fever, but rises rapidly with convalescence. The fecal urobilin shows marked correlation with the occurrence of fever.

19. Hemoglobin Metabolism in Malarial Fever.—Simpson summarizes his paper as follows:

1. The main excretory channel for the pigment portion of the blood is the alimentary tract, and urinary urobilin represents only a small overflow from this source; the main elimination is in the fæces, and this has been largely neglected by previous observers, in favor of the urinary overflow, which, however, would seem to be of importance only as an indication of the absorptive activity of the intestine and almost negligible for quantitative purposes.
2. The fall in the hemoglobinometer readings in malaria appears to represent an actual destruction of red corpuscles and elimination of their pigment by the normal excretory mechanism.
3. The hemoglobin breakdown during the pyrexia due to the malignant tertian (*P. falciparum*) infection appears to be greater than in other pyrexial diseases or than in benign malaria (*P. vivax*), and may be many times greater than would be accounted for by the number of corpuscles infected by the parasites.
4. As regards their effect of causing hemolysis, the parasites appear to be of different degrees of virulence in different individuals, and even in different paroxysms in the same individual (relatively at least, since the patient's resistance must be considered).
5. Normally, the ordinary channels of excretion are capable of dealing with the free hemoglobin and rapidly remove it from the blood-stream, and a very severe strain (over 25 per cent. of the total circulatory hemoglobin) can be sustained without their failure and the consequent onset of hemoglobinuria.

20. Sleeping Sickness.—The observations made in this case by Korke show that the coagulation time of the blood is passing from the negative to the positive phase as the leukocytosis is passing toward leukopenia. The number of the parasites and the nature of the hemoglobin index are subject to very little variation. Examinations of the cerebrospinal fluid and blood for trypanosomes were negative, but albumoses were found in the cerebrospinal fluid, not in the blood. The urine during life was examined for albumose. The reaction was negative; later, in the preserved specimen of urine, albumose was again found to be absent. The patient had a large collection of pus in the pleural cavity, consequently the possibility that the albumose was due to empyema was thus eliminated by the result of the blood and urine examinations. So that although the cerebrospinal fluid was tinged with blood, the process of exclusion leads to the conclusion that albumose was present in the cerebrospinal fluid only. The test used for cholin was that of Mott and Halliburton, viz., the production of characteristic octohedral crystals in the platinum double salt from the alcoholic extracts of the cerebrospinal fluid. The result was positive. Control tests were made with the 15 per cent. alcohol and absolute alcohol used in the original test, but these were negative. Cholin was absent in the blood. The brain tissue was examined by Korke. The perivascular spaces around the blood-vessels in the substance of the brain were infiltrated with mononuclear leukocytes, chiefly lymphocytes. This change is typical of the sleeping-sickness brain where the infection is due to *T. gambiense*. The infiltration was not enormous.

22. Morphology of a Trypanosome From a Case of Sleeping Sickness.—The peculiarity of this Rhodesian trypanosome discovered by Stephens and Fantham is that among the stout or stumpy forms some have the nucleus at the posterior (*non*-flagellar) end. They have never found them, though persistently looked for, in the films from the same animals infected with the laboratory strain of *T. gambiense*, treated in the same way, *i. e.*, dried films. Further, they have examined the new trypanosomes by *intra vitam* staining with methylene blue; by this method the posterior position of the nucleus can be seen. Finally, they have fixed wet films with sublimate-alcohol and with osmic vapor respectively, and subsequently stained them with hematoxylin, and found the same forms. They also attach some importance to the fact that the patient from whom this strain was derived was never, as far as careful enquiries could elicit, in a *Glossina palpalis* area, but had been in many *Glossina morsitans* areas, and very probably in a small *Glossina fusca* area. On account of its peculiar morphologic features, the authors propose a distinct designation as *T. gambiense rhodesiense* or *Trypanosoma rhodesiense*.

23. Pathogenicity of a Trypanosome From a Case of Sleeping Sickness.—Yorke's observations as to the morphology of the parasite confirm those of Stephens and Fantham regarding the existence of posterior nuclear forms in infected rats, guinea-pigs and rabbits. He has not, however, succeeded in finding these forms in the blood of the patient himself, in spite of very careful daily examinations during a period of over three months.

25. A New Genus and Three New Species of Anopheline Mosquitoes.—This new genus is the dactylomyia. The head is clothed with upright forked scales; the palpi are rather densely scaled. There is a distinct and very pronounced cylindrical-shaped tubercle or finger-like process projecting obliquely from the prothoracic region, mid-way between the dorsum and venter, and arising from the anterior margin. Thorax and abdomen are clothed with hairs. The wings are covered with dense lanceolate scales. Judging by the character and distribution of the scales, this genus comes near *Anopheles;* but owing to the remarkable structures mentioned above it is easily distinguishable from any other known genus of the *Anophelinæ*. Three species are described by Newstead and Carter: (1) *Dactylomyia Ceylonica;* (2) *Pyretophorus cardamatisi;* (3) *Cellia cincta.*

Practitioner, London

January

26 Neurasthenia and Associated Conditions. F. W. Mott.
27 Neurasthenia and Drugs. D. Ferrier.
28 Traumatic Neurasthenia. W. Harris.
29 Neurasthenia and Eye-Strain. E. Clarke.
30 Neurasthenia and Gastralgia. R. A. Fleming.
31 Neurasthenia in Children. C. Riviere.
32 The Sexual Element in the Neurasthenia of Men. G. Holmes.
33 The Sexual Element in the Neurasthenia of Women. H. MacNaughton-Jones.
34 Mental Therapeutics in Neurasthenia. H. C. Thomson.
35 Neurasthenia and Insanity. A. F. Tregold.
36 Neurasthenia and Movable Kidney. C. W. Suckling.
37 Neurasthenia Minor. P. C. C. Smith.
38 The More Certain Control of Traumatic Neuroses. T. A. Williams.
39 Neurasthenia and Diet. D. N. Paton.
40 The Educational Treatment of Neurasthenia. F. Beach.
41 Treatment of Neurasthenia by Rest, Diet and Massage. C. W. Buckley.
42 Electrical Treatment of Neurasthenia. S. Leduc.
43 Climatic, Balneotherapeutic and Sanatorium Treatment of Neurasthenia. N. Wood.
44 Treatment of Neurasthenia by Physical Methods. J. A. Rivière.
45 Treatment of Neurasthenia by Hypnotism and Suggestion. C. L. Tuckey.

Journal of Tropical Medicine and Hygiene, London

January 2

46 *Zambesi Ulcer. W. J. Bruce.
47 Isolation of a Parathyroid Bacillus from a Drinking-Water Supply. A. May.
48 Filaria Loa. G. C. Low.

46. Zambesi Ulcer.—The main points about this ulcer according to Bruce are:

1. It is found, with rare exceptions, in one part of the body—below the knee.
2. It is usually single, rarely double, and more rarely in the form of two, or perhaps three, small ulcers on the same leg.
3. It does not spread, but exhibits immediate sloughing of the area attacked, remains a week or more and then heals by granulation.
4. It produces no constitutional disturbances nor enlargement of the lymphatic glands.
5. It is invariably associated with the presence of a spirillum and a large fusiform bacillus.

It is said that one attack gives considerable protection but not complete immunity, as years later the same person may develop mild small ulcers. It is said also to be met with only in the flat grass lands, such as the Zambesi delta, but this statement is not reliable.

Annales de l'Institut Pasteur, Paris

November, XXIV, No. 11, pp. 833-920

49 [illegible] on Epidemic Poliomyelitis. (Maladie [illegible] Landsteiner and C. Levaditi.
50 [illegible] procédé des petites doses et les injec- [illegible] A. Besredka.
51 [illegible] Plague-Infected Organs for Examination. (Procédé de conservation des organes pesteux pour le diagnostic.) C. Broquet.
52 Relation Between Fowl and Mammalian Tuberculosis. (Rapport entre la tuberculose aviaire et celles des mammifères.) D. A. de Jong.
53 Eighth Antimalaria Campaign in Algiers. E. Sergent.

Presse Médicale, Paris

January 4, XIX, No. 1, pp. 1-8

54 Auto-Intoxication with Intestinal Obstruction. H. Roger.
55 Apparatus for Chloroform Anesthesia. P. Fredet and E. Merry.

January 7, No. 2, pp. 9-16

56 Methylene Blue in Treatment of Malta Fever. V. Audibert and Rouslacroix.
57 Structure and Development of Connective Tissue. J. Jolly.

Semaine Médicale, Paris

January 4, XXXI, No. 1, pp. 1-12

58 Presence of Blood Pigments in Urine in Malaria. (Nouveau signe pathognomonique du paludisme.) C. L. Urriola.

January 11, No. 2, pp. 13-24

59 Allowing Parturients to Get Up Early. (Le lever précoce des nouvelles accouchées.) R. de Bovis.

Archiv für Kinderheilkunde, Stuttgart

LIV, Nos. 4-6, pp. 241-484. Last indexed Nov. 12, 1910, p. 1769

60 *Amyotonia Congenita. (Myatonia congenita von Oppenheim.) J. P. C. Griffith (Philadelphia) and R. Lewin.

61 Viscosity of Blood in Healthy and Sick Infants. F. Lust.

62 **Diagnosis and Epidemiology of Pulmonary Tuberculosis in Children.* K. E. Ranke.

63 Use or Harmfulness of Bacteria in Intestinal Tract. (Bedeutung der Bacterien im Intestinaltractus. Infection und Sterilisation desselben.) P. S. Medowikow.

64 *An Epidemic of Poliomyelitis. (Steiermarkische Poliomyelitisepidemie im Jahre 1909.) K. Potpeschnigg.

65 Influence of the Dwelling on Development of the Child. (Einfluss der Wohnung auf die Entwicklung.) E. Gindes.

60. Abstracted in The Journal, May 21, 1910, p. 1712.

62. **Pulmonary Tuberculosis in Children.**—Ranke has had about four thousand children under continuous observation during the last three years in his work as school inspector and physician to the tuberculosis dispensary, and he has thus been able to trace the course of pulmonary tuberculosis in them and to correct mistaken impressions. He learned that apical catarrhal processes in children have nothing to do with tuberculosis. When they are of a tuberculous nature, they are merely one manifestation of a generalized tuberculosis. With the latter it is often the only sign indicating involvement of the bronchial glands, aside from radiography. This point, he says, is very important. Mild generalized tuberculosis is so frequent in children and so often runs a favorable course without any treatment, that its differentiation is imperative from the graver, pulmonary form which always requires strict measures and years of treatment. Apical symptoms, therefore, he declares, must be estimated entirely differently as they are observed in children and in adults. True pulmonary tuberculosis in children scarcely ever affects the apices first. He seldom if ever found associated chronic bronchial catarrh with pronounced phthisis in children. When bronchial catarrh occurs, it runs its course the same as in the non-tuberculous. In young children the glands and serous membranes are the seat of the tuberculous processes while in adults the lungs are the main site; these two forms of the disease do not blend into each other, he says, but are separated by a striking gap in the mortality curve. They actually seem almost two separate diseases, or more like the three phases of syphilis. The generalized form runs its course and heals, leaving a kind of immunity, though some minute focus may persist whence the bacilli may pass into the blood later. The lungs, the great blood filter, are especially endangered by this irruption of the bacilli into the blood, and after a period of weakness and anemia with occasional febrile attacks—the picture characteristic of the insidious form of a relatively mild generalized tuberculosis—a process like that in the lungs of adults may develop as adult age is reached.

Tuberculosis in any form in children should be combated, he declares, along the same lines as in adults. But scarcely a step has been taken in this direction. In the great world movement against the white plague only a few isolated pediatrists have taken part; and yet this is particularly the work of pediatrists, Ranke declares. Not only the theoretical solution for the problem of the origin of tuberculosis lies in the child material but also a large part of the practical success of the movement. The hygienic and other measures introduced into Germany in the last few years have reduced the adult mortality from pulmonary tuberculosis amazingly, he remarks, but it is equally surprising that the mortality from tuberculosis in children has shown practically no decline during this period. In some of the states it has even increased. Pediatrists are confronted here by a task which is no less important than the reduction of infant mortality from gastrointestinal disease. Under modern hygienic conditions tuberculous adults live longer and thus the period in which they can infect others has been lengthened. Tuberculosis in children can be prevented only by removing children from contact with the tuberculous family or by isolating the tuberculous member of the family in an institution Neither can be realized at present, Ranke remarks, and it is the task of pediatrists to rouse the public to the necessity for these measures and to select the children who need treatment out of the millions already infected. Such children tire easily, show a moderate anemia, positive tuberculin reaction and higher temperature after playing and after retiring. In normal children the rectal temperature is not over 37.5 C. (99.5 F.); if it is above this figure for long periods, and other causes can be excluded, the child is ill and probably tuberculous. Small cheesy glands are responsible for the temperature in these cases. Careful supervision will reveal occasional sudden intercurrent attacks of fever for a day or for two or three days, resembling the tuberculin reaction. It may be impossible to detect any local manifestations. In many cases of ephemeral fever in children, an insidious generalized tuberculosis may be incriminated. The glands in the neck swelled in three of his cases in less than four weeks after infection and remained enlarged for nearly two years. Glands once the seat of a tuberculous process may subside to normal size but generally are unusually hard and are adherent to the surrounding tissues, while recently infected glands are movable. The hilus glands may also subside after having been enlarged, but they cast a shadow with radiography thereafter into adult life; such shadows, therefore, are not necessarily a sign of an active tuberculous process.

64. **Acute Poliomyelitis.**—Potpeschnigg states that about 600 cases of acute anterior poliomyelitis developed in 1909 in the Steiermark district which has a population of 1,750,000. Question blanks were sent to all the medical men in the district and 235 returned them, bringing out a number of important points in regard to the disease. The onset frequently was not accompanied by fever, but when there was high fever sweats were common. Sore throat was almost constantly observed as a prodromal symptom. Sharp pains in the breast were also noted in some cases. In others the first sign of trouble was intense pain in one limb and when the paralysis developed, this limb was first affected. On suspicion of the disease, the child should be kept in bed. He relates several instances of serious trouble following premature use of the limbs in what promised to be otherwise mild forms of the disease. The patients should be kept unconditionally in bed for weeks even in the mild cases, and brief active movements commenced gradually and with extreme caution. He illustrates by a number of examples the fact that even the absence of fever and pain and subjective disturbances is no guarantee that the disease has been arrested or run its course. No benefit was observed from lumbar puncture in his experience but no harm resulted. Occasionally the paralysis disappeared abruptly, but never could any connection between this and any special measures be detected. He begins cautiously with faradization and massage two or three weeks after the acute process has begun to decline. Plaster and other splints were applied to prevent secondary contracture from preponderance of the muscle antagonists. The limbs were also placed so as to prevent passive overstretching of the paralyzed groups of muscles. The deltoid is generally the muscle most affected and to prevent overstretching he has the arm placed over the head during the night. In prophylaxis some recommend throat and mouth sprays and gargles with from 1 to 3 per cent. hydrogen dioxid. In scarcely any other disease, he adds, is it possible for the patient and his environment to render so much more favorable the final outcome of the disease. If the paralyzed patient is allowed to lie still in bed undisturbed, and nothing is done but a little faradization and massage, complete atrophy and secondary contracture are almost inevitable, but suitable measures to combat this tendency, energetically and perseveringly applied, accomplish wonders even in the most apparently hopeless cases. Intelligent cooperation on the part of the patient is a great aid in this respect. It was found that several cases retrospectively diagnosed had occurred in the district previous to the 1909 epidemic. The incubation was as long as five, six and ten days in some instances. The mortality was 7.51 per cent. in the younger children and 24.25 per cent. over the age of 14. Death was the result of paralysis of the muscles of respiration. Anatomic research shows that islands of normal tissue may be found in the apparently totally paralyzed muscle, or there may be paralyzed patches in nearly normal muscles.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXI, No. 1, pp. 1-316

66 *Present Status of Transplantation of Living Human Bone. E. Streissler.
67 Meckel's Diverticulu ernia. Schede.
68 Cause of Congenital s angeborenen muskulären Schief
69 Alkaptonuria a Degeneration from Inbreeding. (Ueber Ochronose.) H. Kolaczek.

66. **Present Status of Transplantation of Living Human Bone.**—This article of 208 pages is a summary of this subject from its early history to date. Extensive experimental research is also reported.

Berliner klinische Wochenschrift

December 19, XLVII, No. 51, pp. 2330-2380

70 *Chronic Duodenal Ulcer. E. Melchior.
71 *Relations Between Tumors in Female Genital Apparatus and Diabetes Mellitus. F. Hirschfeld.
72 *Leprosy and Cancer. M. Søgaard.
73 *Importance of Antitrypsin Reaction in Diagnosis and Prognosis of Cancer. A. Pinkuss.
74 Treatment of Progressive Paralysis with Sodium Nucleinate. J. Donath.
75 Physiology of Respiration. (Neure Untersuchungen zur Physiologie der Lungenatmung.) A. Loewy.

December 26, No. 52, pp. 2381-2412

76 Case of Splenomegaly, Left Hydronephrosis and Carcinoma of Ureter. J. Israel.
77 *Relations Between Status Lymphaticus and Addison's Disease. F. v. Werdt.
78 Metastatic Gonorrheal Conjunctivitis. W. Rusche.
Vestibular Nerve Symptoms in Disease of the Internal Ear. (Vestibulare Reiz- und Ausfall-Erscheinungen bei Labyrintherkrankungen.) I. Herzfeld.
80 Oil Suspension of Salvarsan. (Ein 40 proz. Dioxydiamidoarsenobenzol-Oel.) C. Schindler.
81 Action of Injections of Metallic Mercury. E. Richter.
82 Principles for Treatment of Placenta Prævia. E. Runge.

70. **Chronic Duodenal Ulcer.**—Melchior is inclined to believe that chronic duodenal ulcer is the result of a predisposition and that it is useless to excise the ulcer as the conditions inducing the predisposition remain after excision. The best means of treatment is to exclude the entire duodenum; this is effectually done by a gastro-enterostomy if the pylorus is closed at the same time; if the pylorus persists permeable the operation does not remedy conditions. He reports the details of four typical cases to illustrate the benefit that will follow treatment on these principles. Even with fulminating hemorrhage from a chronic duodenal ulcer, it is better, he says, to avoid any direct operative procedure on the ulcer itself. The gastro-enterostomy permits complete exclusion of the duodenum; with gastric ulcer the region can never be so completely excluded. Cancerous degeneration of a duodenal ulcer is extremely rare, he declares. He even advocates gastro-enterostomy as a prophylactic measure, not waiting until the surgeon's hand is forced. Although the affection may seem harmless yet it is a Damocles' sword hanging over the patient's head, perforation peritonitis or severe hemorrhage being liable to occur at any moment. This does not of course refer to the ecchymosis or hemorrhagic erosions of the duodenum liable to follow amputations; he has observed this in three cases and has found records of nine others. The trouble in these cases is probably the result of minute arterial emboli; in every case there was a suppurating focus elsewhere. In no instance, however, he adds, has a chronic duodenal ulcer been traced to an accident of this kind in the past. It always seems to be due to some reduction of the vital resisting power of the duodenal wall in respect to the peptic action of the gastric juice. This assumption is confirmed by the frequent multiplicity of such tumors and their association with gastric ulcers.

Genital Tumors and Diabetes.—Hirschfeld reports two cases in which diabetes preceded or accompanied uterine fibromyoma and cites four others from the literature. In three of the cases the diabetes retrogressed or became attenuated after removal of the tumor. In his clinical experience diabetes in women under 50 has run a more rapid course than in men and after 50 a much slower course. The conditions with an accompanying genital tumor are much the same as with pregnancy. The rapidly growing tumor may cause changes in the organs concerned in the carbohydrate metabolism; the influence of menstruation can be detected and also the lessening of the hemorrhage from the tumor on an antidiabetic diet.

72. **Cancer in Lepers.**—Søgaard has studied the records of the leper asylums in Norway and found only nineteen deaths from cancer in the 2,269 deaths recorded, that is, only 0.84 per cent., while the cancer mortality in the population at large was 3.5 per cent. in 1865; 5.1 per cent. in 1880; 7.5 per cent. in 1897; and 8.5 per cent. in 1906. The lepers in Norway are isolated.

73. **Antitrypsin Reaction in Diagnosis of Cancer.**—Pinkuss states that the reaction was positive in nearly 94 per cent. of ninety-eight patients with certain cancer and he thinks that it can be accepted as a valuable sign of the presence of cancer and as an index of the results of operative treatment, radiotherapy, fulguration, etc. The technic is that described by Brieger, Marcus and Trebing. B. Fränkel, von der Heide and Krösing have also reported from 90 to 100 per cent. positive reactions with the method. The test is based on the fact that normal blood-serum contains sufficient antibodies to inhibit the digestive action of a 1 per cent. solution of trypsin on the Loeffler plate in the proportion of 1 to 3. This inhibiting power is materially increased in cancer patients, ranging between 1 to 10 and 1 to 20. It was described in The Journal, July 4, 1908, page 83. Pinkuss found that the test was liable to fail after excessive losses of blood, and he warns that it is a biologic reaction which should be estimated in connection with the clinical picture as a whole.

77. **Relations Between Addison's Disease and the Status Lymphaticus.**—In v. Werdt's two cases pronounced hypoplasia of the chromaffine system accompanied the typical Addison's disease, while the lymph glands were enlarged.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 3-4, pp. 209-420. Last indexed January 28, p. 311

83 Metabolism of Matter and Energy During Fever. (Stoff- und Kraftwechsel im Fieber.) E. Grafe.
84 Formation of Blood in Spleen and Liver After Posthemorrhagic Anemia. (Zur Frage der extramedullären Blutbildung bei posthämorrhagischen Anämien.) A. Skornjakoff.
85 Pulse and Respiration-Rate. (Studien über Puls und Atmungsfrequenz.) K. v. Korosy.
86 *Changes in Gastric Mucosa with Acute Infectious Diseases. (Veränderungen der Magenschleimhaut bei akuten Infektionskrankheiten.) E. Jerusalem.
87 *Tryptophan Test and Acetic-Acid Test in Early Diagnosis of Gastric Cancer. H. Oppenheimer.
88 *Inhibiting Influence of Emotions on Ga mende Einfluss der Psyche auf die lichen Magens und Verwertbarkeit des randauer.
89 Functioning of Disease and Takayasu.
90 Direct Injury from Extreme Tachycardia. K. F. Wenckebach.
91 Histology of the Intestines with Pernicious Anemia. L. Aschoff.

86. **Changes in the Gastric Mucosa During Acute Infectious Diseases.**—Examination of the bodies of persons dying from acute infectious diseases showed invariably serious pathologic conditions, mostly an interstitial gastritis with proliferation of connective tissue. Whooping-cough with complicating bronchopneumonia was the only disease in which the changes were merely a slight interstitial degeneration. Jerusalem examined the cadavers twenty-four hours after death, and remarks that the pathologic conditions found readily explain the lack of appetite, vomiting, etc., observed in acute infectious diseases.

87. **Early Diagnosis of Gastric Cancer.**—Oppenheimer reports the findings with Neubauer and Fischer's glycyltryptophan test constantly negative in five normal persons, in twelve with gastric ulcer and in seven with non-malignant stomach troubles, while the findings were constantly positive in six cases of certain cancer in the stomach and in three clinical cases while they varied in the suspects. In only one case were the findings contradictory of the clinical history. (The test was described in The Journal, Jan. 1, 1910, page 86.) It is evidently not infallible, as even this one case shows, but positive findings are certainly strong evidence in favor of *presumptive* cancer. Acetic acid, Oppenheimer adds, can also be used to differentiate cancer. Forty minutes after the Boas test breakfast some stomach content is withdrawn and a 3 per cent. solution of acetic acid is added a drop at a time to a few cubic centimeters of the filtered gastric juice. In case of the presence of cancer the fluid turns turbid and persists turbid

even when the fluid is diluted with water to five times its volume. The turbidity vanishes, however, if large amounts of acetic acid or a little hydrochloric acid are added. The only source of error seems to be the presence of mucus, as this also produces turbidity when the acid is added. But the turbidity from this cause does not clear up on addition of hydrochloric acid while it vanishes when the fluid is much diluted. If the filtrate of stomach content is very turbid to start with, the test is not applicable, but it is generally possible to obtain a limpid filtrate by slowly filtering the fluid through a moistened folded filter. The tryptophan and acetic-acid tests paralleled each other with precision in his experience, but the latter test is more reliable, he thinks, as the findings are not affected by the presence of blood, trypsin or bacteria, while the acetic-acid technic can be applied to vomitus as well as to siphoned-out stomach content. The findings were constantly negative in seven healthy persons, in twenty-four with gastric ulcer and hyperacidity and in nine with non-malignant stomach affections while they were positive in all the cancer cases except one in which the findings with the tryptophan test likewise contradicted the clinical course.

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110. **Uterine Cancer.**—Schauta states that for the last ten years he has been systematically operating by the vaginal route in all cases of uterine cancer in order to obtain a reliable set of statistics. His mortality was at first 10 per cent., but in his later series this has been reduced to 4 per cent.; the operability was between 50 and 60 per cent.; the permanent cures average between 40 and 50 per cent., while the permanent "absolute cures" have been 13 per cent., 15 per cent. in recent series and the proportion will be still higher next year as he will have 28 per cent. with an interval of over four years since the operation. In from 10 to 15 per cent. of his total material the physician first consulted neglected gynecologic examination, and this is where improvement must come in the future. The physician must absolutely refuse to have anything to do with the case unless the woman applying for any gynecologic trouble at the cancer age will permit local examination. If he gives her any advice or writes a prescription the woman is satisfied with the "treatment" and does not return for weeks or months, and then she is lost. He insists that hemorrhage during the climacteric period should never be ascribed to the influence of the menopause until all other causes for it have been scrupulously excluded. He states that it is far better to examine ninety-nine women needlessly than to let cancer in the hundredth escape detection in time. The fear of

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116 Capacity and Weight of Lungs and Heart in the Horse. M. Müller.

109. **Diabetes.**—Von Noorden states that the liver is evidently the source of sugar production, and that this function is controlled by the pancreas and the suprarenals—the pancreas inhibiting sugar production and the suprarenals stimulating it. The pancreas in turn is under the control of the thyroid, the secretion of which has an inhibiting action on the functioning of the pancreas as is shown in the increased tendency to glycosuria with thyroid hyperfunctioning. After thyroidectomy, the pancreas exerts such a strong inhibitory action on the liver that it is almost impossible to induce glycosuria. The hypophysis cerebri seems to have the same action on the pancreas as has the thyroid; with tumor of the hypophysis there is remarkable tolerance for large amounts of sugar. The suprarenals are under the control of the sympathetic nervous system and are very sensitive to the action of certain toxins. Formerly it was assumed that the glycosuria resulting from puncture of the medulla ("sugar puncture") was due to direct stimulation of the liver from the central nervous system, but recent research has demonstrated that this stimulation is transmitted by the left sympathetic nerve and at first to the left suprarenal, whence the stimulation is forwarded to the right suprarenal by the connecting nerves. If the left suprarenal is cut off from the left sympathetic nerve, no glycosuria follows the sugar puncture. Puncture of the medulla stimulates the suprarenals to greater secretion, and this secretion in turn stimulates the liver to an excessive output of sugar. A number of toxic influences act in the same way, partly by the influence on the sugar center in the medulla, partly by stimulation of the sympathetic nerve or the suprarenals thus causing exaggerated functioning which entails overproduction of sugar in the liver. These facts, v. Noorden says, explain the influence of the central nervous system on the intensity of diabetic glycosuria and show the necessity for studying each individual case with special care, and the importance of warding off emotional stress and injurious nervous and toxic influences. He is convinced that there is no disease in which physicians neglect to such an extent this individual study of the patient as in diabetes. There is no other affection, he declares, which is so rich in complications of all kinds, whose treatment requires such comprehensive regard for all the organs and their functional capacity and which makes such high demands on the individualistic estimation of the details and of the whole clinical picture. In regard to dietetic treatment, he says that diabetics must resign themselves to watch carefully over every mouthful they take and that this must be kept up indefinitely. It is especially hard for them as they do not feel ill. No drug can take the place of restriction of carbohydrates in the diet, and the benefit claimed for certain remedies is always due to the dietetic regulations imposed with them. The physician treating a diabetic in 1911 must keep long years to come constantly in view, and not let himself be deterred from his plan of treatment by the momentary complaints of the patient or his family.

110. **Uterine Cancer.**—Schauta states that for the last ten years he has been systematically operating by the vaginal route in all cases of uterine cancer in order to obtain a reliable set of statistics. His mortality was at first 10 per cent., but in his later series this has been reduced to 4 per cent.; the operability was between 50 and 60 per cent.; the permanent cures average between 40 and 50 per cent., while the permanent "absolute cures" have been 13 per cent., 15 per cent. in recent series and the proportion will be still higher next year as he will have 28 per cent. with an interval of over four years since the operation. In from 10 to 15 per cent. of his total material the physician first consulted neglected gynecologic examination, and this is where improvement must come in the future. The physician must absolutely refuse to have anything to do with the case unless the woman applying for any gynecologic trouble at the cancer age will permit local examination. If he gives her any advice or writes a prescription the woman is satisfied with the "treatment" and does not return for weeks or months, and then she is lost. He insists that hemorrhage during the climacteric period should never be ascribed to the influence of the menopause until all other causes for it have been scrupulously excluded. He states that it is far better to examine ninety-nine women needlessly than to let cancer in the hundredth escape detection in time. The fear of

cancer in the public should not deter from this course; a woman can be relieved of this fear in a few hours by going to a physician for examination if she is free from malignant disease while the physician can assure her that she can be cured if he discovers an incipient cancer. He adds that surgeons have come to the limit of technical skill; the burden of the campaign against uterine cancer rests now on the shoulders of the general practitioner and the public.

114. **Hereditary Displacement of the Patella.**—In the family described by Wrede, bilateral luxation of the patella was observed in the grandfather, in the father, in his sister and one of his five brothers, and in the son and daughter.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

December, XXXII, No. 6, pp. 641-754

117 Pregnancy in a Dwarf. (Fall von hypoplastischem Zwergwuchs mit Gravidität nebst Bemerkungen über die Aetiologie d [illegible] hner.
118 *Status [illegible] E. Sachs.
119 Gas in [illegible] on der Tympania uteri.) H. Rimann.
120 Subcutaneous Symphyseotomy and Suprasymphyseal Delivery. (Ueber den subcutanen Symphysenschnitt und die suprasymphysäre Entbindung.) F. Frank.
121 Postoperative Protection of Abdominal Cavity. H. Sellheim.
122 Pseudomyxoma in Peritoneum After Appendicitis. H. Cramer.
123 Radioactive Ferments in Treatment of Inoperable Cancer. A. Sticker and E. Falk.
124 Local and Spinal Anesthesia in Gynecology. G. A. Wagner.

118. **Status Epilepticus and Pregnancy.**—Sachs reviews the literature on this subject and reports the case of a woman with a tendency to epilepsy since puberty as also her two sisters. The sisters have been healthy since their marriage and have borne healthy children, but Sachs' patient found the epilepsy aggravated by her first pregnancy, so that violent seizures recurred every day. After failure of other measures, premature delivery was induced with the inflatable bag, after incision of the cervix, the uterus being emptied immediately after the cervix was sufficiently dilated. Hemorrhage was arrested by the Momburg belt constriction but the woman died without regaining consciousness. Necropsy showed none of the changes in the internal organs characteristic of eclampsia. Sachs is convinced that the measures adopted did harm rather than good; the long-continued irritation from the method of delivery and other measures kept up a constant stimulation of the cortex contrary to the general principles imperative in treatment of epilepsy. Possibly better results might have been obtained if the uterus had been emptied rapidly by vaginal Cesarean section. Only two cases are on record, he says, in which the intensity of the status epilepticus developing in pregnancy equaled that in his patient. Differentiation from eclampsia is difficult, and he thinks that some cases on record may have been mistaken for eclampsia. He has been unable to find any record of a case of status epilepticus or epilepsy in any form in which the patient was cured by interruption of the pregnancy. The aim should be to ward off everything that might irritate the central nervous system. If delivery is urgent, the shortest technic should be employed. The history, epileptic equivalents, possibly knowledge that the bromids have been abruptly suspended, may give the clue to the epilepsy, while an unusually low freezing-point of the urine and hyperleukocytosis suggest eclampsia. He emphasizes the importance of differentiating them as the treatment is diametrically opposite for the two affections. Pregnant women with a history of epilepsy should have their bodily functions supervised with exceptional care, the bromids should never be abruptly suspended, and excesses of all kinds should be avoided. Albuminuria is the rule in eclampsia to such an extent that the lack of it has caused some writers to dispute the diagnosis in otherwise apparently typical eclampsia. At the same time, repeated epileptic seizures are liable to induce albuminuria.

Münchener medizinische Wochenschrift

January 3, LVIII, No. 1, pp. 1-64

125 *Salvarsan: Retrospect and Outlook. (Salvarsantherapie.) P. Ehrlich.
126 [illegible] nd R. Tambach.
127 [illegible] eft Palate and Harelip. (Behand- [illegible] komplizierten einseitigen Hasen- [illegible]
128 *Siphonage of Stomach Content Through the Nose in Peritonitic Ileus. M. Kappis.
129 Four Cases of Sepsis from Friedländer Bacillus. F. Rolly.
130 *Recurrence of Syphilis in Nervous System After Mercurial Treatment. (Syphilitische Neurorezidive.) J. Benario.
131 Intrathoracic Goiter. S. Kreuzfuchs.
132 *Injurious Action of Pure Oxygen on the Lungs. (Zur Chloroformsauerstoffnarkose.) A. Schmidt and O. David.
133 *Butenko Reaction in Urine in Paralysis. P. Beisele.
134 Technic of Carbon Dioxid Snow Treatment of Skin Disease. (Technik der Kohlensäureschneebehandlung.) A. Strauss and H. Fründ.

125. **Retrospect and Outlook for Salvarsan Therapy.**—[illegible]rlich here reviews the subject to date saying that his preliminary connection with the drug is now practically closed. He regards his method of distributing the drug for extensive investigation by leading medical men as the only proper method of introducing a new drug. He states that he never claimed that the drug would cure in a single dose, and he also insists that the cases in which the drug has been applied contrary to the indications he so carefully specified should not be placed to its discredit. He compares it to chloroform; in the healthy not more than one fatality is known in 50,000 applications of chloroform, while this proportion increases to 1 in 2,070 for the average hospital material, and the proportion is far higher in heart disease. The few bladder disturbances that have been reported are probably tr[illegible]able to defective vials with oxidation of the drug by cont[illegible] air, the resulting compound being much more toxic [illegible] salvarsan. He discusses in detail the cases reporte[illegible]rio and others in which the recurring manifestations o[illegible] syphilis were in the optic or auditory nerve and he relates a number of instances in which similar recurrences in the nervous system have been observed after mercurial treatment or without any treatment. The chief argument against their being results of toxic action from the salvarsan is that they were rapidly cured by salvarsan; if the salvarsan had been responsible, another dose of the drug would have aggravated the lesion. The only case of blindness reported from it was in Finger's patient, whose case was mentioned in The Journal, Jan. 7, 1911, page 83, but this patient had within the year been given thirty injections of arsacetin in addition to other arsenical medication. Ehrlich had previously warned against giving the salvarsan to any patient who had been taking any arsenical preparation. He regards these recurrences in nerves as a sign that the spirochetes elsewhere have been practically exterminated and that this was their last refuge. The sterilization had been almost complete, and a dose of salvarsan rapidly cured seven of Benario'[illegible] ten patients in whom these recurrences developed after mercurial treatment alone. In conclusion, Ehrlich says, that salvarsan has won a permanent place for the treatment of syphilitic mouth and throat affections and those of the nasal mucosa, the cutaneous syphilids of the secondary and tertiary phases, "galloping" syphilis and congenital syphilis and the cases refractory to mercury—for all these salvarsan has proved itself the most powerful weapon, uniting, he asserts, the action of mercury and iodid, while surpassing both in the reliability and rapidity of the effect.

128. **Retention Stomach Tube in Peritonitic Ileus.**—The Journal, April 9, 1910, page 1244, mentioned Westerman's method of continuous siphonage of the stomach content by a stomach tube introduced through the nose, and Kappi[illegible] here relates a number of experiences with this measure which confirm its clinical value. A broad, soft stomach tube slips easily through one nostril down into the stomach and it is left there, the stomach contents being readily siphoned out. In peritonitic ileus the vomiting and hiccough stop [illegible] once and the patient can drink freely. Some of the flu[illegible] the passing through the stomach is probably absorbed, especially an alcoholic or sugar solution, while the abdomen is left in peace and is relieved of the pressure of the filled stomach. This siphonage by the nose has been applied in ten cases of severe peritonitic ileus in his service with the best results. If it does not succeed, enterostomy is indicated without too long waiting, for fear of decubitus in the esophagus from the stomach tube. He found such at necropsy in one case in which the tube had been left in the esophagus for forty-eight hours. Since then he never leaves it more than twelve hours at a time, reintroducing it if necessary. The measure is also urgently indicated, he declares, in postoperative obstruction·

of the duodenum, in acute dilatation of the stomach, and in gastric succorrhea.

130. See abstract No. 125.

132. **Chloroform-Oxygen Anesthesia.**—Schmidt and David describe research on mice which shows that breathing air containing over 90 per cent. oxygen induces changes in the [illegible] similar to the picture of croupous pneumonia. The same [illegible]ges were induced in guinea-pigs with from 40 to 60 per [illegible] oxygen, and they think that there is no doubt that the oxygen has an unmistakably injurious action on the bronchial and alveolar epithelium. This property of oxygen has not been regarded sufficiently hitherto; they think that there seems to be some analogy between it and caisson disease.

133. **Specific Urine Reaction in Paralysis.**—Beisele found Butenko's reaction positive in twenty-five out of twenty-seven cases of paralysis, that is, in 94 per cent. The reagent is a solution of mercurous nitrate in water with a little nitric acid, the combination known as liquor Bellostii. The reaction was never positive in seventy-three other patients examined.

Therapeutische Monatshefte, Berlin

December, XXIV, No. 12, pp. 669-762

135 [illegible]nt of Exophthalmic Goiter. (Zur Behandlung der [illegible]owschen Krankheit.) W. Ebstein.
13[illegible] [illegible]ges of Dry Treatment of Leukorrhea. (Behandlung [illegible]luor albus.) W. Liepmann.
[illegible] [illegible]erdial in Treatment of Seasickness. (Seekrankheit und Veronal.) E. Schepelmann.
138 Pharmacologic Tests for Atropin, Physostigmin and Pilocarpin. J. Pohl.
139 Cause of Therapeutic Action of Electric Currents. P. Steffens.

135. **Treatment of Exophthalmic Goiter.**—Ebstein reports four new cases to show the remarkable benefit liable to follow the cure of severe chronic constipation in cases of exophthalmic goiter. In one of the cases all the symptoms subsided and there has been no recurrence during the fifteen years since. The constipation in all these cases yielded only to persevering, systematic injections of oil. The diarrhea with exophthalmic goiter may also yield to injections of oil. He is convinced that auto-intoxication from chronic constipation is liable to have an injurious influence on the thyroid, and when the source of these toxins is dried up by the cure of the tendency to constipation, the disturbances resulting from the pathologic thyroid functioning are liable to subside with it. His [illegible]tients were women between 18 and 47 years old.

13[illegible] **Treatment of Leukorrhea.**—Liepmann has obtained better [illegible]sults in treatment of leukorrhea since he has discarded lav[illegible]e and merely applied an absorbent powder after sponging [illegible]he vagina dry. Nassauer has long been proclaiming the adv[illegible]ages of bolus alba for the purpose on account of its absorbent properties.

Wiener klinische Wochenschrift, Vienna

January 5, XXIV, No. 1, pp. 1-42

140 Photodynamic Action of Fluorescent Substances. II. H. Pfeiffer.
141 *Experiences with Tuberculin Treatment. J. Sorgo and E. Suess.
142 Dispensary Tuberculin Treatment. (Tuberkulin[illegible] und ambulatorische T[illegible]
143 *Lordotic Albuminur[illegible]
144 Generalized Herpes Zoster. G. Nobl.
145 Diagnosis of Sporadic Cases of Chol[illegible] (Z[illegible] der Blutplattenmethode und der [illegible]tion in der Diagnose sporadis[illegible] Gloseffi.
146 Diet and Kitchen from Chemical, Physical and Physiologic Standpoints. W. Sternberg.

141. **Tuberculin Treatment.**—Sorgo and Suess are in charge of [illegible]Alland sanatorium and they have had such favorable [illegible]ces with tuberculin treatment that they hope to see it become a routine measure in the hands of the general practitioner. The patients must be warned that they may be obliged to spend a few days in bed when the reaction is unusually severe, and patience and perseverance are required by both the physician and the patient. There is no doubt, they declare, that tuberculin is an important weapon against pulmonary tuberculosis. They usually begin with 0.000001 or 0.00001 gm. but they warn that it is folly to waste time with doses below those which the patient can tolerate; it is necessary to begin with the smallest doses in some cases, but with a little experience it is possible to select those in which larger doses can be commenced from the first.

143. **Lordotic Albuminuria.**—Piesen found that the children inclined to lordotic albuminuria developed it when they were obliged to sit with their arms crossed behind them, a frequent school attitude. Study of the subject in a large number showed that this attitude has a directly injurious influence on the kidney and is liable to induce albuminuria. The predisposition to lordotic albuminuria seems to be more pronounced, the taller the child for its age. The facts observed confirm Lury's assumption that movability of the kidney is the decisive factor in lordotic albuminuria.

Zeitschrift für Urologie, Berlin

December, IV, No. 12, 897-1036

147 Technic for Pyelolithotomy. S. P. v. Federoff.
148 Partially Intraligamentary Developed Bladder. J. Voigt.
149 Congenital Cysts in Genital and Perineal Regions. C. Gutmann.

Zentralblatt für Chirurgie, Leipsic

January 7, XXXVIII, No. 1, pp. 1-32

150 *Autodrainage for Elephantiasis, Etc. (Eröffnung neuerer Abfuhrwege bei Stauung in Bauch und unteren Extremitäten.) O. Lanz.
151 *Transplantation of Nerve from One Side to the Other. (Nervenüberpflanzung von der einen Seite auf die entgegengesetzte.) D. Maragliano.
152 Femoral Hernia. (Zur Radikaloperation der Schenkelhernie.) A. Hammesfahr.
153 *Subungual Hematoma. G. v. Lobmayer.

150. **Autodrainage for Elephantiasis from Congestion of Lymph.**—Lanz was able to obtain a complete cure in the case of a man of 49 whose right leg had been gradually enlarging in size for five years, without pain, the disfigurement and discomfort resulting from the enormous size of the entire limb incapacitating the patient at times. Lanz kept the man in bed for ten days with the limb raised, and then incised the thigh down to the bone and bored into the femur at the lower, middle and upper thirds. He then cut some narrow strips from the fascia lata and worked them into the three holes drilled in the bone, his aim being to induce a collateral circulation of lymph, opening a passage from the subcutaneous lymphatics into the intramuscular, subperiostal and marrow network of lymph vessels. Before suturing he made also a number of openings for drainage through the fascia lata. The silk suture the length of the thigh may also have contributed to the result. Relief was immediate and permanent. Now, three years later, no difference is apparent between the right and left leg, except that the skin of the right thigh seems a little thicker than the other. The fascia lata is an absolute barrier for the lymph routes, and by artificially opening passages through this barrier the whole trouble was cured. If the desired effect had not been attained he had intended to connect the lymphatics in the thigh with those of the seminal cord, pushing the latter over to the fossa ovalis.

151. **Transplanting the Femoral Nerve to the Other Side.**—Maragliano implanted a branch of the left femoral nerve in the totally paralyzed right femoral nerve in the case described. The patient was a child of 2 with total paralysis of the right leg from acute poliomyelitis nearly a year before. Arthrodesis at the hip-joint, knee and ankle would have been necessary to enable the child to walk, but excellent functional results were obtained by drawing the isolated branch of the left femoral nerve through a subcutaneous tunnel and suturing it with the finest catgut to the entire peripheral stump of the right femoral nerve.

153. **Subungual Hematoma.**—Lobmayer trephines the nail and thus releases the accumulated blood without pain and without injury of the nail. He has applied the method in forty cases, complete working capacity being restored in three or four days while the relief from pain was immediate.

Zentralblatt für Gynäkologie, Leipsic

January 7, XXXV, No. 1, pp. 1-48

154 Asepsis in Laparotomies and the Origin of Emboli. O. v. Franqué.
155 *Oxygen in Resuscitation of New-Born Infants. (Die Sauer[illegible] kämpfung des Scheintodes Neuge[illegible]
156 Nc[illegible] J. Reich.
157 W[illegible] of the Small Pelvis After Infectious Operations. (Die Abkapselung des kleinen Beckens nach infektionsverdächtigen Operationen.) E. Holzbach.

155. **Resuscitation of Asphyxiated New-Born Infants.**—Engelmann gives an illustrated description of the small oxygen tank and mask which has permitted the prompt resuscitation of a number of asphyxiated new-born infants with the least delay and trouble. The mask consists of a broad rubber ring which fits over the face, the roof of the mask forming a rubber balloon opening on the mask proper.

Zentralblatt für innere Medizin, Leipsic

January 7, XXXII, No. 1, pp. 1-32

158 Digestion of Carbohydrates. A. Jolles.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 27, XXXI, No. 155, pp. 1641-1648

159 Iodin Sterilization of Field of Operation. (Sterilizzazione del campo operativo col metodo Grossich.) D. Vandini.

January 1, XXXII, No. 1, pp. 1-16

160 Acidity of the Urine in Respect to Diagnosis and Prognosis. (L'acidita urinaria indagata come grado, persistenza e aumento.) L Castriota.

January 3, No. 2, pp. 17-24

161 Treatment of Venereal Adenitis. G. Dal Fabbro.

Policlinico, Rome

December 18, XVII, No. 51, pp. 1603-1634

162 Urinary Concrements in Children. (Litiasi urica del bambini.) G. Di Cristina.

January 1, XVIII, No. 1, pp. 1-36

163 *Clinical Importance of Two Precipitates in Acetic-Acid Seroreaction. F. Rivalta.

163. **Acetic-Acid Seroreaction.**—The Journal, July 9, 1910, page 178, described Rivalta's technic for this reaction with blood and serum, and the conclusions he drew from the findings in regard to the prognosis. He now announces that continuing the dilution still further, after all trace of precipitation had ceased, he found that in certain serums another precipitable substance made itself manifest when the dilution had reached a certain point. The behavior of this second precipitate indicates, he thinks, that it is due to the presence in the serum of certain elements resulting from breaking down of tissue, while the first precipitable substance seems to be an element of the defensive reaction. Comparison of the two may thus throw light on the prognosis. The second precipitate was evident in dilutions up to 1 to 15,000 in cases of advanced tuberculosis, for example.

Riforma Medica, Naples

December 19, XXVI, No. 51, pp. 1402-1428

164 *Carcinoma of Thyroid. (Carcinomi della ghiandola tiroide.) G. Morone.

165 Advantages of Temporary Cecostomy in Treatment of Mucomembranous Colitis. G. Doglioni.

164. **Cancer of the Thyroid.**—Morone reports three cases of cancer in the thyroid with an extremely rapid course; in two there was a preceding colloid goiter. One patient was a woman of 25, the others were over 40. In another case the symptoms suggested subacute inflammation of the thyroid; the intermittent fever was probably due to the absorption of the pathologic secretions of the gland.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Studies on Leprosy. XII. Notes on the Study of Histories of Lepers from the Standpoint of Transmission. By Donald H. Currie, Passed Assistant Surgeon and Director Leprosy Investigation Station. XIII. A Contribution to the Study of Rat Leprosy. By Donald Currie and Harry T. Hollmann, Acting Assistant Surgeon, Leprosy Investigation Station, P. H. & M.-H. S. Investigations made in Accordance with the Act of Congress approved March 3, 1905. Public Health Bull. No. 41, U. S. P. H. and M.-H. S., Treasury Department, November, 1910. Paper. Pp. 36. Washington: Government Printing Office, 1911.

Accidental Injuries to Workmen. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911.

The Work of the [illegible] . I. [illegible] Pavlov, Director of the [illegible] Inst[illegible] tute of Experimental [illegible] mpson Sc.D., M.D., F.R.C.S. ([illegible] utes [illegible] Medicine, Trinity Colle[illegible] Cloth Price, $3 net. Pp. 266 [illegible] J. [illegible] Lippincott Co., 1910.

A Handbook of Practical Treatment. By Many Writers Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, [illegible] Kelly, A.M., M.D., Assistant Professor of [illegible] of Pennsylvania, Philadelphia. Volume [illegible] Pp. 909, with 233 Illustrations. Philac[illegible] Co.,1911.

Remedial Gymnastics for Heart Affections. Used at Bad Nauheim. By Dr. Julius Hofmann and Dr. Ludwig Pohlman, Berlin and Bad-Nauheim. Translated by John George Garson, M.D. Edin., Physician to the Sanatoria and Bad-Nauheim, Eversley, Hants, from "Die Gymnastik der Herzleidenden." Cloth. Price, $ [illegible] net. Pp. 128, with 42 Illustrations. New York: Paul B. Hoeber 1911.

Fourteenth Annual Report of the Loomis Sanatorium for the Treatment of Tuberculosis. Oct. 31, 1910. Liberty, Sullivan County, New York. (Medical Supplement prepared in accordance with the suggestion of the National Association for the Study and Prevention of Tuberculosis, by Herbert Maxon King, M.D.) Paper. Pp. 80.

The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamidoarsenobenzol). A Compilation of the Published Observations by Dr. Johannes Bresler, Chief Physician to the Provincial Medical Establishment at Luben, Silesia. Second Edition. Cloth. Price, $1. Pp. 122, with Illustrations. New York: Rebman Co.,1911.

Aerztliche Fortbildungskurse der freien Organis[illegible] für die medizinischen Kurse an der k. k. Universität. (by Post-graduate medical work under the patronage of the fre[illegible] tion for medical courses at the I. r. University of Vienna.) 2. A[illegible] Paper. Pp. 116. Vienna: Urban & Schwarzenberg, 1911.

Discurso leido el dia 2 de Julio en la Apertura Anual de los Estudios de la Universidad Pontificia de Sto. Tomas, de Manila. Por Don Leon M. Guerrero, Professor de la Facultad de Farmacia en la misma Universidad. Edicion oficial. Pape[illegible] Pp. 88. Manila: Estab. Tipog. del Colegio de Sto. Tomas, 1910.

An Introduction to Vertebrate Embryology. Based on the Study of the Frog, Chick and Mammal. By Albert Moore Reese, Ph.D. (Johns Hopkins), Professor of Zoology in West Virginia University. Second Edition. Cloth. Price, $1.50 net. Pp. 34[illegible], with 118 Illustrations. New York: G. P. Putnam's Sons, 1909.

History of Anthropology. By Alfred C. Haddon, M.A., Sc.D., F.R.S., Fellow of Christ's College, University Reader in Ethnology, Cambridge. With the Help of A. Hingston Quiggin, M.A., Formerly of Newnham, Cambridge. Cloth. Price, 75 cents. Pp. 20[illegible], with illustrations. New York: G. P. Putnam's Sons, 1910.

The Health Index of Children. By Ernest Bryant Hoag, M.A., M.D., Medical Director of Berkeley Schools. With Prefatory Note by Frank F. Bunker, Ph.B., Superintendent of Berkeley Schools. Cloth. Price, 80 cents. Pp. 188, with illustrations. San Francisco: Whitaker & Ray-Wiggin Co., 1910.

Syphilis: Its Diagnosis and Treatment. By F. J. [illegible] bkin, Col. R.A.M.C., Lecturer on Syphilology, Royal Army Medical College, London. With Preface by Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D. Cloth. Price, $2.25 net. Pp. 19[illegible] New York: William Wood & Co., 1911.

Proceedings of the 64th Annual Meeting of the New York State Teachers Association. Held at New York City, Dec. 28-29, 1909. New York State Education Department Bulletin 483. Paper. Pp. 703. Albany: University of the State of New York, 1[illegible]

Radium: Its Physics and Therapeutics. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 2[illegible] Illustrations. New York: William Wood & Co., 1911.

Compend of Gynecology. By William Hughes Wells, M.D., Associate in Obstetrics in the Jefferson Medical College. Fourth Edition. Cloth. Price, $1 net. Pp. 290, with 153 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

We Young Men. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans W[illegible]gener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. P[illegible] 204. Philadelphia: Vir Publishing Co., 1911.

An Introduction to Surgery. By Rutherford Morison, M.A., M.B., F.R.C.S., Edin. and Eng., Professor of Surgery, University of Durham. Cloth. Price, $2.50 net. Pp. 162, with 151 Illustrations. New York: William Wood & Co., 1911.

A Handbook of Intestinal Surgery. By Leonard A. Bidwell, F.R.C.S., Surgeon, West London Hospital. Second Edition. Cloth. Price, $2.50 net. Pp. 215, with 120 Illustrations. New York: William Wood & Co., 1911.

Annual Report of [illegible] Public Health and Marine-Hospital [illegible] States, [illegible] Fiscal Year 1909. [illegible] Pp. 27[illegible] [illegible] Government Printing Office, 1910.

Personal Hygiene and Physical Training for Women. [illegible] Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with Illustrations.

Makers of Man. A Study of Human Initiative. By Charles J. Whitby, M.D., Author of "The Logic of Human Character," etc. Cloth. Price, $3. Pp. 424, with Illustrations. New York: Rebman Co., 1911.

Studies from the Rockefeller Institute for Medical Research. Reprints. Vol. XI. 1910. Paper. Pp. 419, with Illustrations.

State Registration for Nurses. By Louie Croft Boyd, R.N. Graduate Colorado Training School for Nurses. Paper. Price, 50 cents. Pp. 42. Philadelphia: W. B. Saunders Co., 1911.

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